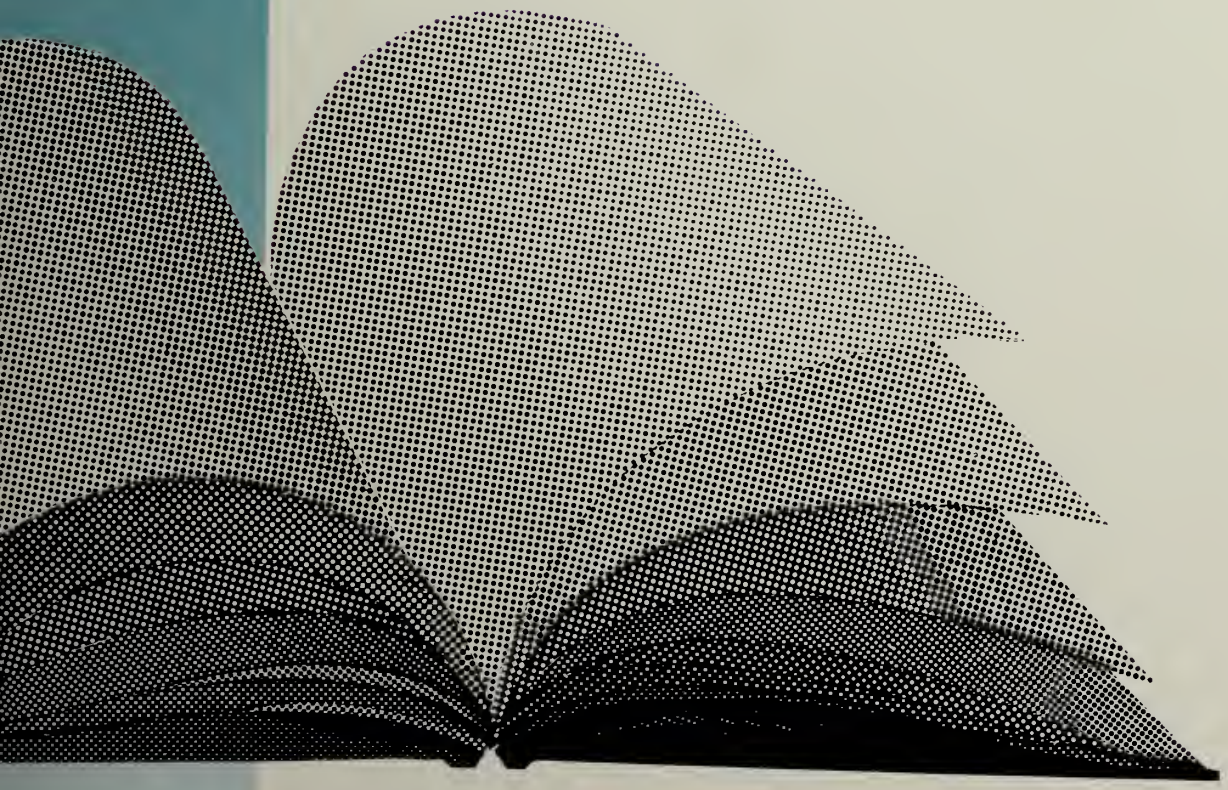
Graduate Studies

University of Massachusetts at Boston

Bulletin

1989–1991



Issued Fall, 1988

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Graduate Admissions Application Instructions

Completing and Returning The Application Form

We are pleased that you are interested in pursuing graduate study at the University of Massachusetts at Boston. To apply, please use the application form that you will find on two detachable sheets in this section of the *Graduate Bulletin*. Please also use the detachable forms for letters of recommendation that also appear in this section of the *Bulletin*.

Please note that the application form is to be used only by applicants who wish to enter the University as degree-seeking graduate students. Do not use the form if you wish to enter an undergraduate program, to take courses as a non-degree-seeking student, or to seek readmission to the University; contact the Graduate Admissions and Records Office for information.

Be sure to read all the following instructions with care before you fill out the form, including the *Additional Instructions for All Applicants* and any *Special Instructions* that may apply to you.

Complete the form fully and accurately. If a particular question does not apply to you, put "NA" in the appropriate space. Please type, or print in black ink, and make bold check marks.

As you complete the form: When answering question 1 in the *Enrollment Plans* section, please refer to the list of graduate programs and tracks you will find on the opposite side of this page. In the *Biographical Information* section, when responding to question 1, put your *legal* name in the spaces marked "Last," "First," and "Middle." After "Previous," put any last name you have formerly used (e.g., a maiden or married name). If you are a foreign student, be sure to use your foreign address when responding to question 11. Please note that questions 6 and 12 (about marital status and ethnic origin) are entirely optional: you are not required to respond. Neither your response nor your failure to respond will be used as a factor in the admission process. The University will use the information obtained through these questions only for the compilation of statistics for the U.S. Department of Education and similar agencies or for its own statistical, demographic profile of the student body.

Be sure to complete the *Residency Information* section. Before you do this, read the *Rules and Regulations Governing the Residency Status of Students for Tuition Purposes,* which you will find on following pages in this section of the *Bulletin*.

Be sure to sign the form on page 3 to certify that all the information you have given is complete and accurate.

Enclose the application fee. When you mail back the form, send with it a check or money order in the amount of $10.00 (for Massachusetts residents) or $25.00 (for all others) made payable to the University of Massachusetts at Boston. Do not send cash. Please note that this fee cannot be refunded. If you are a non-citizen permanent resident of the United States, you must also enclose a photocopy of your alien registration card.

Mail the completed form (*both* detachable sheets) and all enclosures to:
Graduate Admissions and Records Office
University of Massachusetts at Boston
Boston, MA 02125-3393

When to Apply

Apply early. In advance of each semester, the University considers applications for each program until the space available in that program is filled. You should therefore apply as far in advance as possible of the semester for which you wish to be admitted. When the Graduate Admissions and Records Office has received all necessary credentials, your application will be forwarded to the appropriate graduate program committee for review. This committee's recommendation will then be submitted to the Dean of Graduate Studies and Research for a final decision. You will be notified of this decision as soon as possible after it is made.

Please note: Individual programs may set application deadlines and/or admit students only every other semester. Information about possible individual program deadlines is available from the Graduate Admissions and Records Office. Foreign students must apply by certain deadlines. For details, see the *Special Instructions* on the opposite side of this page.

Additional Requirements

Be sure to follow the *Additional Instructions for All Applicants* on the opposite side of this page. These instructions deal with admission tests you may be required to take, and statements, transcripts, and letters of recommendation you must provide.

You must read the *Special Instructions* on the opposite side of this page, and follow those that apply to you, if:

- you are a foreign student;
- you wish to enter any of the following programs: Biology, Biotechnology and Biomedical Science, Business Administration, Clinical Psychology, Human Services, Public Affairs;
- you have formerly studied at Boston State College.

If you have questions about the application process, or about other aspects of graduate study at UMass/Boston, write to the Graduate Admissions and Records Office (see the address above) or call this office at 617 929-7109.

Additional Instructions for all Applicants

Statement of Interests and Intent

Please write and submit a two-part essay. In part 1, give your reasons for wishing to attend graduate school; part 1 should be no more than 300 words long. In part 2, indicate your specific interests, and the kind of work you would like to do, in your intended field; part 2 should be at least 1,200 words long. Please note: certain programs have additional requirements for this statement (see *Special Instructions* on the opposite side of this page).

Use plain 8½" x 11" paper, and put your name and social security number on each page. Please type if possible. Be sure to enclose your statement with your application form and send it, together with the form, to the Graduate Admissions and Records Office.

Admission Tests

UMass/Boston's graduate programs either require or recommend that applicants submit scores from such tests as the Graduate Record Examination (GRE), the Graduate Management Aptitude Test (GMAT), and the Miller Analogies Test (MAT). Please see the appropriate section of this publication or contact the Graduate Admissions and Records Office for the requirements of the program to which you are applying. It is your responsibility to take the appropriate test and to have the official results sent to the Graduate Admissions and Records Office. You may obtain information about test dates and centers from your college counseling office or from the Educational Testing Service, Princeton, New Jersey 08540. *UMass/Boston's CEEB number is 3924.*

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Transcripts
You must arrange to have two copies of an official transcript of your academic work sent to the Graduate Admissions and Records Office by each college or university you have attended as either an undergraduate or a graduate student. Please note: Transcripts issued directly to students are not acceptable.

Letters of Recommendation
Your application must be supported by three letters of recommendation from persons well qualified to judge your preparation for graduate work in the field of your choice. Please choose these persons according to the requirements set forth in this publication. Three forms for letters of recommendation are to be found on following pages. Each person recommending you should use one of the forms and should mail it directly to the Graduate Admissions and Records Office.

Graduate Programs and Tracks
Please use the following list when answering question 1 in the Enrollment Plans section of the application form.

American Civilization (MA)
Applied Physics (MS)
Applied Sociology (MA)
Bilingual Education (MA)
Biology (MS)
Biology/Applied Marine Ecology (MS)
Biotechnology and Biomedical Science (MS)
Business Administration (MBA)
Chemistry (MS)
Clinical Psychology (PhD)
Computer Science (MS)
Counselor Training (MEd, CAGS)
Critical and Creative Thinking (MA)
Dispute Resolution (Graduate Certificate)
Education (Elementary and Secondary) (MEd)
Education/Teacher Certification (MEd)
Educational Administration (MEd, CAGS)
English (MA)
English/Composition (MA)
English as a Second Language (MA)
Environmental Sciences (PhD)
History (MA)
History/Archival Methods (MA)
History/Historical Archaeology (MA)
Human Services (MS)
Instructional Design (MEd)
Mathematics (MA)*
Nursing (MS)
Public Affairs (MS)
Reading (MEd)*
School Psychology (MEd, CAGS)
Special Education (MEd)

*This program was under review at press time, and applications for admission were not being accepted.

Special Instructions

If you wish to enter the Biology Program or the Biotechnology and Biomedical Science Program, you must provide, in your statement of interests and intent, the name of the faculty member you wish to have as your thesis director.

If you wish to enter the Business Administration (MBA) Program, you must include, in your statement of interests and intent, a description of your preparation for graduate study in business administration. You must also submit a copy of your resume.

If you wish to enter the Clinical Psychology Program, you must submit a special supplemental application form. If you need a copy of this form, contact the University's Office of New Student Services (telephone: 617 929-8600). Do not submit a statement of interests and intent written according to the instructions on this page; submit instead the biographical sketch and statement described in the supplemental form.

If you wish to enter the Human Services Program, your statement of interests and intent may be as few as 800 words long, but it must include a description of your expectations of the program in terms of increased skills and career advancement. Your statement must also include a realistic assessment of your plans for combining intensive graduate study with job and family responsibilities, as well as a description of any support you may receive from your employer while pursuing graduate study. You must also submit a copy of your resume.

If you wish to enter the Public Affairs Program, you must submit a copy of your resume along with your statement of interests and intent.

If you are a foreign student—that is, neither a citizen nor a permanent resident of the United States—you must meet the regular admission requirements of the University and must also meet the requirements listed below.

a. Your completed application form, your $25 application fee, and all supporting materials must reach the Graduate Admissions and Records Office by May 1 (for fall semester admissions) or October 1 (for spring semester admissions). The application fee must be submitted in U.S. currency.

b. Official transcripts of your academic record must be sent to the Graduate Admissions and Records Office together with English translations validated by an official public translator.

c. You must submit evidence that you have completed a university-level degree program. Acceptable evidence includes copies of diplomas, certificates, and notifications of final examination results.

d. If your native language is not English, you must take the Test of English as a Foreign Language (TOEFL) and achieve a score of 550 or higher. Note: This requirement may be waived if you have attended an English-speaking college or university for at least two academic years. For information about this test, write to: TOEFL Program, Box 899, Princeton, NJ 08540, USA.

e. You must complete a Declaration and Certification of Finances form. This form will be sent to you as soon as your application is received. Accurate answers to all questions on the form must show that the funds available to you during your full period of study are at least equal to estimated costs of attending UMass/Boston and living in the Boston area during that period. (The 1988 estimate of annual costs for an unmarried student is $14,909.) You will be expected to pay the non-resident tuition rate throughout your enrollment at the University.

If you have ever attended Boston State College, which was consolidated into UMass/Boston in 1982, please note that you must follow the standard application procedure. The Graduate Admissions and Records Office will obtain copies of your Boston State College transcripts, but you must be sure to indicate clearly and specifically, in response to questions 1 and 2 in the Academic Background section of the application form, the academic program in which you were enrolled and your dates of attendance.

Please Use the Address Below
All application forms, statements, transcripts, test scores, and correspondence regarding admission should be sent to:
The Office of Graduate Admissions and Records
University of Massachusetts at Boston
Boston, MA 02125-3393

University of Massachusetts at Boston

Rules and Regulations Governing the Residency Status of Students for Tuition Purposes

I. Definitions

1. Academic Period—a term or semester in an academic year or a summer session, as prescribed by the Board of Trustees or under their authority.

2. Continuous Attendance—enrollment at the University for the normal academic year in each calendar year, or the appropriate portion or portions of such academic year as prescribed by the Board of Trustees or under their authority.

3. Emancipated Person—For the purposes of residency classification for tuition, a person who has attained the age of 18 years and is financially independent of his or her parents, or if under 18 years of age, (a) whose parents have entirely surrendered the right to the care, custody, and earnings of such person and who no longer are under any legal obligation to support or maintain such person; or (b) a person who is legally married; or (c) a person who has no parent. If none of the aforesaid definitions applies, said person shall be deemed an "unemancipated person."

4. Parent

a. the person's father and mother, jointly;

b. if the person's father is deceased, the person's mother; if the person's mother is deceased, the person's father;

c. if a legal guardian has been appointed by a court having jurisdiction, the legal guardian;

d. if neither father nor mother is living and no legal guardian has been appointed, the person who then stands *in loco parentis* to the person;

e. if the father and mother are divorced, separated or unmarried, the parent who has been awarded legal custody of the person; if legal custody has not been awarded, the parent with whom the person lives. With respect to any adopted student the word "adoptive" should be inserted before the words "father" and "mother" wherever used.

5. Reside, residency or resident—shall refer to domicile, i.e., a person's true, fixed and permanent home or place of habitation, where he or she intends to remain permanently.

II. Classification

1. For the purpose of assessing tuition and fees, each student shall be classified as a "Massachusetts resident" or a "Non-Massachusetts resident." A person shall be classified as a Massachusetts resident if he or she (or the parent of an unemancipated student) shall have resided in the Commonwealth of Massachusetts for purposes other than attending an educational institution for twelve months immediately preceding the student's entry or reentry as a student.

Physical presence for this entire twelve-month period need not be required as long as the conduct of the individual, taken in total, manifests an intention to make Massachusetts his or her permanent dwelling place.

III. Determination of Residency

1. Proof of Residency

a. Each case will be decided on the basis of all facts submitted with qualitative rather than quantitative emphasis. A number of factors is required to determine the intention of the person to maintain permanent residence in Massachusetts. No single index is decisive. The burden of proof rests on the student seeking classification as a Massachusetts resident.

b. The following shall be primary indicia of residency:
1. For unemancipated persons, the residency of parents, having custody, within Massachusetts;
2. Certified copies of federal and state income tax returns;
3. Permanent employment in a position not normally filled by a student;
4. Reliance on Massachusetts sources for financial support;
5. Former residency in Massachusetts and maintainance of significant connections there while absent.

c. The following shall be secondary indicia of residency, to be considered of less weight than the indicia listed above in subsection (b):
1. Continuous physical presence in Massachusetts during periods when not an enrolled student;
2. Military home of record;
3. All other material of whatever kind or source which may have a bearing on determining residency.

2. Proof of Emancipation

A student asserting that he or she is an emancipated person shall furnish evidence to support such assertion. Such evidence may include:

a. Birth certificate or any other legal document that shows place and date of birth;

b. Legal and guardianship papers—court appointment and termination must be submitted;

c. Statements of the person, his or her parent(s), guardians(s), or others certifying no financial support;

d. Certified copies of federal and state income tax returns filed by the person and his or her parent(s);

e. Where none of the foregoing can be provided, an affidavit of the emancipated person in explanation thereof and stating fully the grounds supporting the claim of emancipation.

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3. Presumptions, etc.

a. Residency is not acquired by mere physical presence in Massachusetts while the person is enrolled in an institution of higher education (see section II.1).

b. A person having his or her residency elsewhere than in Massachusetts shall not be eligible for classification as a Massachusetts resident for tuition purposes, except as herein provided.

1. Any person who is registered at the University as a Massachusetts resident shall be eligible for continued classification as a Massachusetts resident for tuition purposes (until attainment of the degree for which he or she is enrolled) during continuous attendance at the institution.
2. The spouse of any person who is classified or is eligible for classification as a "Massachusetts resident" is likewise eligible for classification as a "Massachusetts resident." This provision will not apply in the case of a spouse in the United States on a non-immigration visa
3. A person who is an immigrant/permanent resident of the United States (or has applied for such status) is eligible to be considered for Massachusetts residency fo tuition purposes provided that he or she meets the same requirements for establishing residency in Massachusetts as are required of a United States citizen.

Non-citizens who are in (or who have applied for) refugee/asylum status are likewise eligible to be considered for Massachusetts residency for tuition purposes provided that they meet the same requirements for establishing residency in Massachusetts as are required of a United States citizen. All non-citizens must provide appropriate documentation to verify their status with the United States Immigration and Naturalization Service.

4. Those students whose higher educational pursuits are funded by the Department of Welfare, the Massachusetts Rehabilitation Department, or any of the other Commonwealth of Massachusetts public assistance programs.

c. A person does not gain or lose in-state status solely by reason of his or her presence in any state or country while a member of the Armed Forces of the United States.

d. For the purposes of this policy the following persons shall be presumed to be Massachusetts residents:

1. A member of the Armed Forces of the United States who is stationed in Massachusetts on active duty pursuant to military orders, his or her spouse and dependent students.
2. Full-time faculty, professional staff, and classified staff employees of the University of Massachusetts system and their spouses and dependent students.

IV. Appeals

Any student or applicant who is unwilling to accept the ruling relative to his or her residency classification may file a "Residency Reclassification Form."

Any students or applicant who is unwilling to accept the ruling related to his or her residency reclassification may submit an appeal to the University's Residency Appeal Committee. The decision by this committee is final and may not be appealed further.

In any case where the Admissions Office is unable to make an initial determination based on the evidence submitted, the applicant may be required to submit a "Residency Reclassification Form" to the Admissions Office for their review before being finally classified as a resident or a nonresident.

V. Penalties

Misrepresentation in or omission from any evidence submitted with respect to any fact, which if correctly or completely stated would be grounds to deny classification as a Massachusetts resident, shall be cause for exclusion or expulsion from or other disciplinary action by the University

University of Massachusetts at Boston

Graduate Admissions Application Form

Enrollment Plans

1. Please indicate the program (and track, if applicable) in which you are interested.

2. Please indicate the degree and/or certificate you plan to seek.

☐ MA ☐ MBA ☐ MS ☐ MEd

☐ CAGS ☐ PhD ☐ Other (specify)

3. You plan to enroll in ☐ Fall, 19 ☐ Spring, 19

4. You expect to attend ☐ Full Time ☐ Part Time

5. Will you apply for financial assistance? ☐ Yes ☐ No

Biographical Information

1. Name Last

First

Middle

Previous

2. Sex ☐ Female ☐ Male

3. Social Security Number

4. Date of Birth (Month, Day, Year)

5. Country of Citizenship

6. Marital Status ☐ Single ☐ Married ☐ Other (please specify)

7. Present Mailing Address

Number Street

City State Zip Country

8. Telephone Numbers: ( ) Home ( ) Work

9. Latest Date to Use Address in Item 7.

10. Address after date in item 9.

Number Street

City State Zip Country

11. Permanent Legal Address

Number Street

City State Zip Country

12. Ethnic Origin

☐ American Indian or Alaskan Native ☐ Black (Not of Hispanic Origin) ☐ Hispanic

☐ Asian or Pacific Islander ☐ Cape Verdean ☐ White (Not of Hispanic Origin)

☐ Other (please specify)

13. Please designate a person to be notified in case of emergency.

Name Relationship

This person's permanent address.

Number Street

City State Zip Country

This person's telephone numbers: ( ) Home ( ) Work

Office Use Only

Wk: Res: Afn:

Academic Background

1. Please list in chronological order each institution of higher education you have attended, indicating dates of attendance. Indicate any degrees or certificates earned or expected, and give dates earned or expected. Be sure to include any institution you have attended as a non-degree-seeking student. If you have ever attended UMass/Boston and/or Boston State College, be sure to indicate this. Use an additional sheet if necessary (print your name and social security number on this sheet).

Institution _____ City, State _____

Attended From (Mo./Yr.) _____ To (Mo./Yr.) _____

Degree or Certificate _____ Earned (Mo./Yr) _____ Expected (Mo./Yr.) _____

Institution _____ City, State _____

Attended From (Mo./Yr.) _____ To (Mo./Yr.) _____

Degree or Certificate _____ Earned (Mo./Yr) _____ Expected (Mo./Yr.) _____

Institution _____ City, State _____

Attended From (Mo./Yr.) _____ To (Mo./Yr.) _____

Degree or Certificate _____ Earned (Mo./Yr) _____ Expected (Mo./Yr.) _____

2. If you have ever attended Boston State College, indicate the academic program you pursued. _____

3. If you have previously sought admission to a UMass/Boston graduate program, indicate the semester for which you applied (e.g., fall, 1987). _____

4. Please list any undergraduate- and graduate-level courses in which you are now enrolled. If none, so state.

Name of Institution	Course Title	Course Number	Date Course Ends	Credit Value (specify unit)

5. If you have taken or plan to take any of the following tests, indicate the month and year below.

☐ GRE (Aptitude) ☐ GRE (Advanced) ☐ Miller Analogies Test _____

☐ GMAT _____ ☐ TOEFL _____ ☐ Other (specify) _____

6. Please give the names of at least three people whom you have asked to forward letters of recommendation in support of your application.

_____

_____

_____

Activities and Work Experience

1. Please indicate chronologically all activities (other than attending college) that have occupied you within the last five years. Include employment, military service, etc. If you have been a teacher, indicate subjects, grades, years taught. Use an additional sheet if necessary (print your name and social security number on this sheet).

Activity	Location	From (Mo./Yr.)	To (Mo./Yr.)

Residency Information

This section must be completed in all applications. *Before* doing so, please read the statement of rules and regulations governing residency status that accompanies this form.

Part 1 This must be filled out by all applicants.

Are you a citizen of the United States? ☐ Yes ☐ No

Please indicate your place of birth below.

City _____ State (if applicable) _____ Nation _____

Part 2 This must be filled out by applicants who *are* residents of Massachusetts as defined by the rules and regulations governing residency status.

I have read the rules and regulations governing the residency status of students for tuition purposes at the University of Massachusetts, and I here state that, pursuant to these regulations, I qualify as a Massachusetts resident for the following reason (check one and indicate beginning of residence):

☐ I am 18 years of age or more, and I have resided continuously in Massachusetts since (Mo./Yr.) _____

☐ I am under 18, and my parent(s) or guardian has resided continuously in Massachusetts since (Mo./Yr.) _____

☐ I am married, and my spouse has resided continuously in Massachusetts since (Mo./Yr.) _____

If you are a permanent alien resident, please give your Alien Registration Number _____

Part 3 This must be filled out by applicants who are *not* residents of Massachusetts as defined by the rules and regulations governing residency status.

☐ I do not qualify for classification as a Massachusetts resident as defined in the rules and regulations governing the residency status of students for tuition purposes at the University of Masssachusetts.

If you are a permanent alien resident, please give your Alien Registration Number _____

If you are a foreign student and you already hold a visa, please indicate your visa status below.

☐ F1 ☐ F2 ☐ J1 ☐ J2 ☐ Other _____

If you are a foreign student and you have applied for a visa, indicate the visa status for which you have applied.

☐ F1 ☐ F2 ☐ J1 ☐ J2 ☐ Other _____

If you are a foreign student currently in the U.S.:

When does your I-94 expire? _____ Which institution issued your last I-20? _____

Please be sure that you have answered all questions in part 1 and that you have indicated your residency status in either part 2 or part 3. If you have claimed Massachusetts residency, be sure that you have indicated in part 2 the month and year when you—or your parent(s), guardian, or spouse—began residing in Massachusetts.

Please Read and Sign

This form must be signed by the applicant. If you are under 18 and unmarried, a parent or guardian must also sign.

I certify that the information given in this application is complete and accurate, and that I have not attended any institutions other than those listed. I understand that making false or fraudulent statements within this application could result in denial of admission, disciplinary action, and invalidation of credits or degrees earned. Should there be any change in the substance of the information I have given here, I will immediately notify the Graduate Admissions and Records Office.

Signature of Applicant _____ Date _____

Signature of Parent or Guardian _____ Date _____

Final Instructions

Please mark the following boxes to indicate that this application form is complete.

☐ I have completed the Residency Information section.

☐ I have signed this form, and (if applicable) my parent or guardian has also signed it.

☐ I have enclosed a check or money order in payment of the application fee.

☐ I have enclosed my statement of interests and intent.

☐ (if applicable) I have enclosed a photocopy of my alien registration card.

☐ I have read all instructions regarding admission tests, transcripts, and letters of recommendation, and I understand what credentials I must arrange to have sent to the Graduate Admissions and Records Office.

Send this form and all enclosures to:

Graduate Admissions and Records Office
University of Massachusetts at Boston
Boston, MA 02125-3393

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University of Massachusetts at Boston

Letter of Recommendation for Graduate Admission

To the applicant: Please provide the information requested in this section of this form (please type or print), sign the form, and give it to a person well acquainted with your academic abilities who has agreed to recommend you for admission to the graduate program of your choice.

Applicant's name _____

Applicant address _____

Proposed program of study _____

Person providing recommendation _____

☐ I waive the right provided by the Family Educational Rights and Privacy Act of 1974 (Buckley Amendment) to view this letter of recommendation in my file at the University of Massachusetts at Boston.

☐ I do **not** wish to waive this right. Rather, I wish to retain the right to view this letter in my file at the University of Massachusetts at Boston.

Signature of applicant _____ Date _____

To the recommender: Please comment in detail regarding the applicant's potential for graduate study and your basis for judgment. We are particularly interested in your assessment of this applicant's a) capacity and motivation for carrying on advanced study and research, b) creative talent, c) ability to speak and write English clearly, and d) promise for a successful career. We are also interested in the applicant's potential for work as a teaching or research assistant. Use the opposite side of this page if necessary. Because the University of Massachusetts at Boston is in compliance with Section 504 of the Rehabilitation Act of 1973, we ask you to avoid referring directly or indirectly to any handicap the applicant may have.

Please mail the completed form to:
Office of Graduate Admission and Records
University of Massachusetts at Boston
Boston, MA 02125-3393

Recommender's signature _____ Date _____

Title/Position _____

Institution/Organization and address _____

_____

University of Massachusetts at Boston

Letter of Recommendation for Graduate Admission

To the applicant: Please provide the information requested in this section of this form (please type or print), sign the form, and give it to a person well acquainted with your academic abilities who has agreed to recommend you for admission to the graduate program of your choice.

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Office of Graduate Admission and Records
University of Massachusetts at Boston
Boston, MA 02125-3393

Recommender's signature _____ Date _____

Title/Position _____

Institution/Organization and address _____

_____

University of Massachusetts at Boston

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Applicant's name _____

Applicant address _____

Proposed program of study _____

Person providing recommendation _____

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Please mail the completed form to:
Office of Graduate Admission and Records
University of Massachusetts at Boston
Boston, MA 02125-3393

Recommender's signature _____ Date _____

Title/Position _____

Institution/Organization and address _____

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Graduate Studies Bulletin 1989-1991

Fall, 1988
Volume 9, Number 1

The University of Massachusetts at Boston Bulletin (U.S.P.S. 566-090) is published quarterly and distributed free of charge by the University of Massachusetts at Boston, Harbor Campus, Boston, Massachusetts 02125-3393. Second-Class Postage Paid at Boston, MA 02109. Postmaster: send address changes to: The University of Massachusetts at Boston, Harbor Campus, Boston, Massachusetts 02125-3393.

The purpose of this publication is to provide information about the University of Massachusetts at Boston to persons who work and study at the University, to persons who may be interested in applying for admission, and to parents, teachers, counselors, and the general public. THIS PUBLICATION IS NEITHER A CONTRACT NOR AN OFFER TO MAKE A CONTRACT. While every effort has been made to ensure the accuracy of the information in this publication, the University reserves the right to make changes at any time with respect to course offerings, degree requirements, services provided, or any other subject addressed in this publication. The information in this publication is provided solely for the convenience of the reader, and the University expressly disclaims any liability which may otherwise be incurred.

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The University of Massachusetts at Boston is accredited by the New England Association of Schools and Colleges, Inc., a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering post-graduate instruction.

Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited school or college is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the New England Association is not partial but applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding the status of an institution's accreditation by the New England Association should be directed to the administrative staff of the school or college. Individuals may also contact the Association:

Commission on Institutions of Higher Education
New England Association of Schools and Colleges
The Sanborn House, 15 High Street
Winchester, Massachusetts 01890
(617) 729-6762

The University of Massachusetts at Boston is a member of the Council of Graduate Schools of the United States and the Northeastern Association of Graduate Schools.

Publications Office
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Foreword

Foreword

The University

The University of Massachusetts is the state university of the Commonwealth. It was founded in 1863 under provisions of the Morrill Land Grant Act passed by the United States Congress one year earlier. The University of Massachusetts has three campuses, at Amherst, at Boston, and at Worcester.

The University of Massachusetts at Boston was founded in 1964 to provide the opportunity for superior undergraduate and graduate education at moderate cost to the people of the Commonwealth and particularly of the greater Boston area. Since its founding the University has demonstrated a deep commitment to serving students and the community. The urban setting permits the University to offer a broad array of resources—educational, professional, and cultural—unique in American higher education. These resources, in conjunction with the University's active concern for the student's individual development, enable the student to earn an excellent education.

Life at the University of Massachusetts at Boston is as rich and varied as the city of Boston itself. As a student in Boston one can easily visit world-famous museums, theaters, and concert sites, or enjoy a cruise to the islands of Boston Harbor. As a student on campus, one can readily attend plays, musical recitals, and films, use outstanding specimen collections and facilities for research, navigate one of the University's sailboats, or conduct research on the islands of the harbor and at the University's Nantucket field station. The access and opportunity offered by the University of Massachusetts at Boston are mirrored by the access and opportunity of Boston and New England.

Situated on a finger of land jutting into the picturesque aquatic environment of Dorchester Bay and Old Harbor, the main or Harbor Campus of the University of Massachusetts at Boston is easily accessible by public transportation and private automobile. A campus shuttlebus links the Harbor Campus with the Downtown Center at the corner of Arlington and Stuart Streets, in Park Square, also easily accessible by public transportation. Another campus shuttlebus links the Harbor Campus with the JFK/UMass MBTA station. The Harbor Campus consists of six buildings on approximately 100 acres of land surrounded on three sides by ever-changing seascapes. The John F Kennedy Library and the Massachusetts Archives and Commonwealth Museum adjoin the University. The physical growth of the campus has been carefully planned to meet future needs of the citizens of the Commonwealth.

Graduate Programs

As part of its commitment to serving citizens of the Commonwealth, the University now offers graduate programs at the doctoral level in clinical psychology and environmental sciences, and graduate programs at the master's level in American civilization, bilingual education, biology, biotechnology and biomedical science, business administration, chemistry, computer science, counselor training, critical and creative thinking, education (elementary and secondary), educational administration, English, English as a second language, history, human services, instructional design, nursing, applied physics, public affairs, school psychology, applied sociology, and special education. Special tracks in these master's degree programs offer studies in the areas of applied marine ecology, archival methods, English composition, and historical archaeology. Other offerings include the Certificate of Advanced Graduate Study (CAGS) in counselor training, educational administration, and school psychology; and a one-year Graduate Certificate Program in Dispute Resolution. Additional graduate offerings are being developed.

Office of Graduate Studies and Research

Under the leadership of the Dean of Graduate Studies and Research, this office oversees all graduate work at the University. In collaboration with the University's Graduate Studies Committee, the Office of Graduate Studies and Research exercises overall review and supervision of graduate programs, and provides guidance for the development of new programs, as well as for the maintenance of academic standards within existing programs. At UMass/Boston, graduate education is supported cooperatively and in accordance with the highest national professional standards by the University's College of Arts and Sciences, College of Education, College of Management, College of Nursing, College of Public and Community Service, and John W McCormack Institute for Public Affairs.

Further Information on Graduate Study

The graduate programs of the University of Massachusetts at Boston are described in detail in this publication. For information about graduate programs at the University of Massachusetts at Amherst, consult the University of Massachusetts at Amherst *Graduate School Bulletin.* Information about graduate programs in medicine and related fields may be found in the *Medical School Catalog* of the University of Massachusetts at Worcester.

Academic Calendar, 1988-1990

Fall Semester, 1988

Add/Drop Day	August 30	(Tue)
Classes Begin	August 31	(Wed)
Labor Day (Holiday)	September 5	(Mon)
Add/Drop Ends	September 13	(Tue)
Columbus Day (Holiday)	October 10	(Mon)
Mid-semester	October 21	(Fri)
Pass/Fail Deadline	November 4	(Fri)
Course Withdrawal Deadline	November 4	(Fri)
Veterans Day (Holiday)	November 11	(Fri)
Registration, Spring '89	November 28-December 2	(Mon-Fri)
Thanksgiving Recess	November 24-27	(Thu-Sun)
Classes Resume	November 28	(Mon)
Classes End	December 12	(Mon)
Reading Period	December 13-15	(Tue-Thu)
Final Exams	December 16-22	(Fri-Thu)
Emergency Snow Day	December 23	(Fri)

Spring Semester, 1989

Add/Drop Day	January 26	(Thu)
Add/Drop Snow Day	January 27	(Fri)
Classes Begin	January 30	(Mon)
Add/Drop Ends	February 7	(Tue)
Washington's Birthday (Holiday)	February 20	(Mon)
Evacuation Day (Holiday)	March 17	(Fri)
Spring Vacation	March 18-26	(Sat-Sun)
Mid-semester	March 23	(Thu)
Classes Resume	March 27	(Mon)
Pass/Fail Deadline	April 6	(Thu)
Course Withdrawal Deadline	April 6	(Thu)
Patriots Day (Holiday)	April 17	(Mon)
Registration, Fall '89	May 8-12	(Mon-Fri)
Classes End	May 17	(Wed)
Reading Period	May 18-21	(Thu-Sun)
Final Exams	May 22-May 26	(Mon-Fri)

Fall Semester, 1989

Add/Drop Day	September 1	(Fri)
Labor Day (Holiday)	September 4	(Mon)
Classes Begin	September 5	(Tue)
Add/Drop Ends	September 12	(Tue)
Columbus Day (Holiday)	October 9	(Mon)
Mid-semester	October 16	(Mon)
Pass/Fail Deadline	October 30	(Mon)
Course Withdrawal Deadline	October 30	(Mon)
Veterans Day (Holiday)	November 10	(Fri)
Registration, Spring '90	November 27-December 1	(Mon-Fri)
Thanksgiving Recess	November 23-26	(Thu-Sun)
Classes Resume	November 27	(Mon)
Classes End	December 12	(Tue)
Reading Period	December 13-14	(Wed-Thu)
Final Exams	December 15-21	(Fri-Thu)
Emergency Snow Day	December 22	(Fri)

Spring Semester, 1990

Add/Drop Day	February 1	(Thu)
Add/Drop Snow Day	February 2	(Fri)
Classes Begin	February 5	(Mon)
Add/Drop Ends	February 9	(Fri)
Washington's Birthday (Holiday)	February 19	(Mon)
Evacuation Day (Holiday)*	March 16	(Fri)
Spring Vacation	March 24-April 1	(Sat-Sun)
Mid-semester	March 27	(Tue)
Classes Resume	April 2	(Mon)
Pass/Fail Deadline	April 10	(Tue)
Course Withdrawal Deadline	April 10	(Tue)
Patriots Day (Holiday)	April 16	(Mon)
Registration, Fall '90	May 7-May 11	(Mon-Fri)
Classes End	May 16	(Wed)
Reading Period	May 17-20	(Thu-Sun)
Final Exams	May 21-25	(Mon-Fri)

*Assumes Evacuation Day (Saturday, March 17) will be observed Friday, March 16. Will be clarified at a later date.

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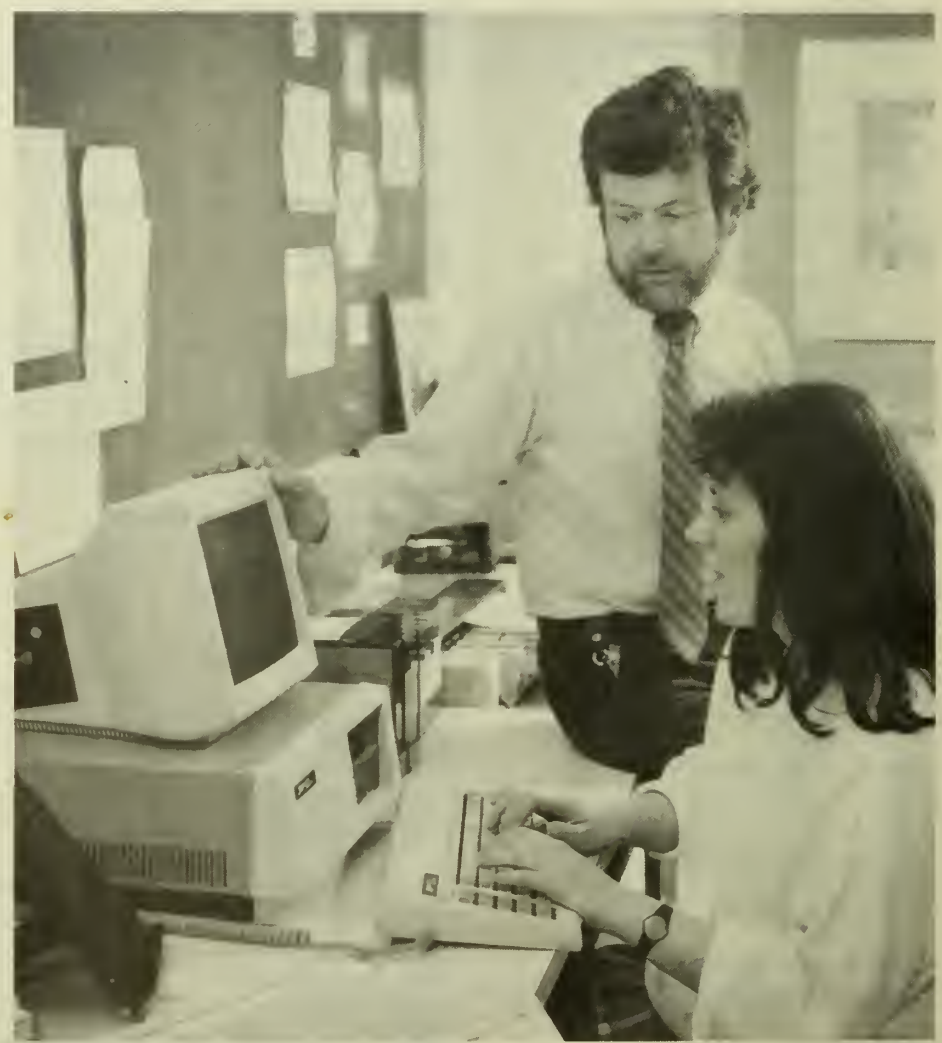
Admissions



Admissions

All persons who hold bachelor's degrees from institutions of recognized standing are eligible to apply for admission to Graduate Studies. Admission is granted only for the semester requested and cannot be guaranteed for a later date (see "Deferred Enrollment" below). An application form and instructions can be found at the back of this publication. Application materials, and information about application deadlines, can also be obtained from the Office of Graduate Admissions and Records, University of Massachusetts at Boston, Harbor Campus, Boston, MA 02125-3393. Applications for admission, with supporting documents, should be sent to the Office of Graduate Admissions and Records. Note: each application must be accompanied by a non-refundable application fee ($10 for residents of Massachusetts, $25 for non-residents).

Admission to Graduate Studies does not automatically indicate approval of candidacy for an advanced degree. Such candidates are subject to specific requirements defined by the individual graduate programs. Graduate program directors must approve all degree candidacies.

Applicants can be admitted to Graduate Studies as:

Matriculated, Degree-Seeking Students fully qualified to pursue studies toward graduate degrees; or as

Non-matriculated, Non-Degree-Seeking Students not admitted to graduate programs but allowed to enroll in graduate-level courses. Upon review of their graduate-level work, non-degree-seeking students may become matriculated. Exception: non-degree-seeking students may not enroll in business administration, clinical psychology, nursing, or public affairs courses, or human services competencies. For more information, see "Non-Degree-Seeking Student Status" below.

General Admission Requirements

The requirements listed here apply to all UMass/Boston graduate programs. Please refer to individual program descriptions in this publication for additional requirements that may apply to individual programs.

1. Submission of the graduate admission application form.
2. A minimum cumulative grade point average in undergraduate work of 2.75.
3. A bachelor's degree or its academic equivalent from a college or university of recognized standing.
4. Official transcripts of all previous work (graduate and undergraduate). An applicant should request the registrar of each college attended to send two copies of each transcript directly to the Office of Graduate Admissions and Records. A final transcript showing that the bachelor's degree has been awarded must be received before the applicant can enter graduate studies.
5. Three letters of recommendation from persons in the field of the applicant's major at the institution most recently attended. An applicant who last attended an academic institution more than five years before applying may, with the approval of the director of the program for which application is made, substitute other references.
6. Submission of test scores, if required by the program to which the applicant is seeking admission.* Information about the tests and about the locations of test centers is available from:

   Educational Testing Service, Box 6000, Princeton, New Jersey, 08541-6000 (GRE)

   Educational Testing Service, Box 6103, Princeton, New Jersey, 08541-6103 (GMAT)

   Psychological Corporation, Controlled Testing Center, 555 Academic Court, San Antonio, Texas, 78204 (MAT)

The programs listed below *require* applicants to submit the appropriate test scores (see individual program sections for details).

Biology—GRE

Biotechnology and Biomedical Science—GRE

Business Administration—Graduate Management Aptitude Test (GMAT)

Chemistry—GRE (required only of foreign students)

Clinical Psychology—GRE

Counselor Training—GRE or Miller Analogies Test (MAT)

Education—GRE or MAT

Educational Administration—GRE or MAT

Environmental Sciences—GRE

Human Services—MAT

Instructional Design—MAT

Nursing—GRE

Public Affairs—GRE

School Psychology—GRE or MAT

Applied Sociology—MAT

Special Education—GRE or MAT

7. Acceptance by both the graduate admissions committee of the program for which application is made and the Dean of Graduate Studies and Research.
8. Acknowledgment of acceptance by the applicant. Acknowledgment should be sent to the Office of Graduate Admissions and Records. Failure to notify the University of acceptance before registration may result in deactivation of the application.

Transfer Credit

Applicants who have completed graduate course work at other accredited institutions may transfer towards the completion of a graduate degree at UMass/Boston up to the equivalent of 6 credits from courses in which the student received a grade of B or higher. Transfer credit is subject to the final approval of the graduate program director and the Dean of Graduate Studies and Research.

Former Boston State College Students

Boston State College was consolidated with the University of Massachusetts at Boston in January 1982. The standard application procedure must be followed by *all* former Boston State College students who now seek admission to UMass/Boston. Note: The Graduate Admissions and Records Office will obtain copies of Boston State College transcripts, but applicants must indicate on the application form the academic programs in which they were enrolled and their dates of attendance.

Copies of Submitted Material

All applicants—and enrolled students—should be certain to keep copies of all forms, documents, and correspondence they submit to the University. If questions about any of this material should arise, students will find it useful to have copies for reference.

Application Deadlines

In advance of each semester, the University considers applications for each graduate program until the space in that program is filled. Interested persons should therefore apply as far in advance as possible of the semester for which they wish to be admitted.

Please note: Foreign students must apply by certain deadlines. For details, see the "Special Instructions" accompanying the application form at the back of this publication.

Please note: Individual programs may set application deadlines and/or admit students only every other semester. Information about possible individual program deadlines is available from the Graduate Admissions and Records Office.

* In accordance with provisions of the General Laws of Massachusetts, Graduate Studies policy permits residents of Massachusetts who have been diagnosed as developmentally disabled (including those with specific language disabilities, such as dyslexia, but not including those whose sole disability is blindness) to request a waiver of the requirement to submit GRE, GMAT, or MAT scores. To qualify for a waiver, an applicant must submit documentation validating his or her disability. A graduate program may require an alternative mode of assessment (e.g., a writing sample) in lieu of the standardized test score. For further information, contact the Office of Graduate Studies and Research.

Admissions

Foreign Applicants

In addition to meeting the general requirements for admission, foreign applicants must also meet the following special requirements:

1. The completed application form, the $25 application fee, and *all* supporting materials must reach the University by May 1 (for fall semester admission) or October 1 (for spring semester admission). The application fee must be submitted in U.S. currency.
2. Official transcripts of the applicant's academic record, with English translations validated by an official public translator, must be sent to the Office of Graduate Admissions and Records.
3. Evidence that the applicant has completed a university-level degree program must be submitted. Acceptable evidence includes copies of diplomas, certificates, and notifications of final examination results.
4. Applicants from countries where English is not generally spoken are required to take the Test of English as a Foreign Language (TOEFL). A score of 550 or above is required. Information about the TOEFL may be obtained from The TOEFL Program, Box 899, Princeton, New Jersey, 08540, USA. This requirement may be waived if the applicant has attended an English-speaking college or university for a period of at least two academic years.
5. A Declaration and Certification of Finances Form *must* be completed based on an estimate of institutional costs and living expenses. Accurate answers to all questions on the form must show that the total funds available to the applicant to cover the full period of study are at least equal to the total estimates of institutional costs and living expenses. A foreign student must pay the non-resident tuition rate for the full period of study.

Below is an estimate of a single graduate foreign student's current (1988) annual expenses. Students should keep in mind that these cost estimates for living expenses are *minimum* estimates for a twelve-month period and that, depending on the individual, actual costs may be higher. Students must be prepared to pay their own expenses and should anticipate yearly increases in both tuition and living expenses. Transportation to and from the United States is not included in the estimates.

Tuition and Fees*	$ 5,527
Housing and Food	6,500
Books and Supplies	550
Medical Insurance	280
Personal Expenses (Miscellaneous)	2,300
Total	**$15,157**

*Includes one-time pre-registration/orientation fee of $25 and one-time recreation fee of $50. If you are married and your spouse will accompany you, *add $3000 to the total*. A couple with children should add a minimum of $1500 for each child.

Note: University tuition, fees, and living expenses will increase annually. For a complete listing of fees, see the "Tuition and Fees" section of this publication.

Foreign students may not accept any off-campus employment without permission from the INS. The INS is very strict about matters of employment for students who have recently begun their studies: you will not under any circumstances be granted permission to accept paid employment off campus until you have been in the US on an F-1 visa for at least 12 months, and then only if you can demonstrate that "unforeseen circumstances" have arisen that make it absolutely necessary for you to work to help support yourself. If that is the case, the I-538 form can be obtained from the Office of International Exchange for permission to work part time off campus (not more than 20 hours). INS permission is not needed to work on campus. Note: the spouse or children of a student on an F-1 visa may enter the U.S. on F-2 visas provided that they have evidence of adequate financial support. Persons on F-2 visas may not accept paid employment under any circumstances.

Acceptance to the University

When all admissions credentials have been received, and a decision to admit the applicant has been made, the University will send the applicant an official letter of acceptance accompanied by a Certificate of Eligibility (I-20 form). Admission is granted for a specific semester only. The I-20 form is valid for that semester only. If the applicant is unable to attend during the designated semester, the University should be notified immediately by mail. The letter should be sent to the Graduate Admissions and Records Office and should indicate when the applicant will be able to attend.

Under no circumstances should an applicant come to UMass/Boston without having received official acceptance and the I-20 form. Applicants who come to the University without these official documents do so at their own risk. An applicant's presence on this campus will not expedite or influence the admission process.

Deferred Enrollment

Admission is granted only for the semester requested by the applicant and cannot be guaranteed for a later semester. With the approval of the appropriate graduate program director, a newly-accepted applicant may defer his or her enrollment in courses for as much as a year. For further information about deferred enrollment, contact the Office of Graduate Admissions and Records.

Any newly-accepted applicant who cannot enroll by the beginning of the second semester after the semester for which admission was originally granted (excluding the summer session), and who remains interested in seeking a graduate degree at the University, must reapply, submitting a new application form and a new set of accompanying credentials.

Readmission

Application for readmission is required of any previously enrolled candidate for a graduate degree who fails to maintain continuous registration (by enrolling for courses or paying the program fee) and who wishes to resume his or her pursuit of the degree.

The applicant must complete a readmission application form and pay readmission and program fees before the application will be considered. Before the applicant can be readmitted, the application must be approved by the appropriate program director and the Dean of Graduate Studies and Research. Any student wishing readmission should contact the Graduate Admissions and Records Office for further information.

Admissions

Graduate Non-Degree-Seeking Student Status

Individuals may register for graduate courses as non-degree-seeking students with the permission of the appropriate graduate program director. Many such students plan to matriculate eventually; others take courses simply for professional advancement or personal growth.

Foreign students on student visas may not register as non-degree-seeking students. The graduate programs in business administration, clinical psychology, human services, nursing, and public affairs do not permit non-degree-seeking students to enroll in their courses or competencies.

Registration as a non-degree-seeking student does not imply acceptance into the University as a matriculated student. Formal application for admission to graduate programs must be made through the Office of Graduate Admissions and Records.

No more than six credits earned as a graduate non-degree-seeking student can be applied towards a graduate degree at UMass/Boston.

Non-degree-seeking students are charged tuition at the same rates as degree-seeking students and must also pay certain of the service fees. (See the "Tuition, Fees, and Payments" section of this publication.)

New England Regional Student Program

The New England Regional Student Program enables New England residents to attend courses at certain universities in other New England states at reduced tuition rates. Students may not participate in the program if their intended course of study is available at an institution in their home state. Applicants who wish to attend UMass/Boston through the program should indicate their intentions on the graduate admissions application. For further information, interested individuals may write Coordinator, Regional Student Program, New England Board of Higher Education, 45 Temple Place, Boston, MA 02111.

Summer Session

Selected graduate courses are offered during the summer. The Summer Session operates on a fee-assisted, self-supporting basis: courses are offered when sufficient student demand is demonstrated. Information regarding course offerings, tuition, and fees may be found in the Summer Session *Continuing Education Bulletin*, available from the Division of Continuing Education Office (929-7900).

Tuition Waivers for Employees of the Commonwealth

Full-time employees of the Commonwealth of Massachusetts, with certain exceptions, are eligible for tuition remission at the University of Massachusetts at Boston. To obtain tuition remission, an employee must submit a completed and signed "Certificate of Eligibility for Tuition Remission" form (available at the employee's personnel office) with his or her tuition bill each semester. For further information, please contact the Office of New Student Services at 929-8600.

Requirements: Summary of all Graduate Programs

Program	Core Courses	Credits	Transfer Credits	Foreign Language	Practicum	Ind. Study	Assistantship	Thesis	Comp. Exams	Oral Exams	Dissertation	Final Project	GRE	MAT	GMAT
American Civilization	Y	30	Y	N		Y	Y					R			
Bilingual Education	Y	30	Y	N	R	Y	Y		R						
English as a Second Language	Y	30	Y	N	R	Y	Y		R						
Biology	Y	30	Y	N			Y	O		R			R			
Biology/Applied Marine Ecology	Y	30	Y	N			Y	O		R			R			
Biotechnology & Biomedical Science	Y	32	Y	N			Y	O		R			R			
Business Administration	Y	30-54 Note 1	Y	N			Y								R
Chemistry	Y	30 Note 2	Y	N		Y	Y	R		R			R Note 11			
Clinical Psychology	Y	79-85	Y	O	R	Y	Y	R Note 13	R	R	R		R	O		
Computer Science	Y	30	Y	N			Y			R						
Counselor Training	Y	45	Y	N	R	Y	Y		R				R/O Note 12	R/O Note 12		
Critical & Creative Thinking	Y	30	Y	N	R	Y	Y	R								
Dispute Resolution	Y	5 comp. (15 cr.)	Y	N	R	Y										
Education	Y	33	Y	N	R	Y	Y		R				R/O Note 12	R/O Note 12		
Educational Administration	Y	36	Y	N	R	Y	Y		R				R/O Note 12	R/O Note 12		
English	N	30	Y	O		Y	Y	O				R Note 3				
Environmental Sciences	Y	65-80	Y	N Note 4		O	Y		R	R	R		R			
History	Y	30	Y	Y		Y	Y	R		R						
Historical Archaeology	Y	38-44	Y	N	R	Y	Y	R		R						
History/Archival Methods	Y	30	Y	Y	R	Y	Y			R						
Human Services	Y	18 Comp.	Y	N	R Note 5	Y	Y					R		R		
Instructional Design	Y	36	Y	N	R Note 9	O	Y	R Note 10				R Note 10		R		
Mathematics*	Y	30	Y	N			Y		R				R/O Note 12	R/O Note 12		
Nursing	Y	42	Y	N	R	O	Y	N		R			R			
Applied Physics	N	30	Y	N	O Note 6		Y	O Note 6								
Public Affairs	Y	38	Y	N		Y	Y					R Note 7	R			
Reading*	N	33	Y	N	R	Y	Y		R				R/O Note 12	R/O Note 12		
School Psychology	Y	66	Y	N	R	Y	Y		R				R/O Note 12	R/O Note 12		
Applied Sociology	Y	36	Y	N	R Note 8	Y	Y		R					R		
Special Education	Y	42	Y	N	R	Y	Y						R/O Note 12	R/O Note 12		

*These programs are under review. Applications are not being accepted at this time.

Key: Y=YES N=NO R=Required O=Optional

Requirements: Summary of all Graduate Programs

Note 1:
The MBA Program allows advanced standing within the program by waiving a portion of the core requirement. Consult the GPD for further information.

Note 2:
Two credits toward the degree must be earned through participation in the seminar program.

Note 3:
The English Department requires a final exercise to complete the degree. Students may choose among three options for the exercise. Consult the GPD for further information.

Note 4:
While proficiency in a foreign language is not a formal requirement for the doctoral degree, a student's dissertation committee may require that proficiency be demonstrated.

Note 5:
The Human Services Program requires that a student complete a minimum of two competencies in a field placement outside the student's job. A maximum of five of the eighteen competencies required for the degree may be completed in this way. Consult the GPD for further information.

Note 6:
To complete the MS in Applied Physics a student must complete either an internship at an off-campus research laboratory or an on-campus thesis project. Consult the GPD for further information.

Note 7:
To complete the MS degree in Public Affairs students must complete a final case study seminar which carries three credits.

Note 8:
The Applied Sociology Program requires that all degree candidates do field work, i.e., an internship that reflects both the academic and professional interests of the student. Consult the GPD for further information.

Note 9:
Required of people not working in a media-related field. Consult the GPD for further information.

Note 10:
Either a thesis or final project is required. Consult the GPD for further information.

Note 11:
Required only of foreign students.

Note 12:
Either the GRE or the MAT is required.

Note 13:
Students in the Clinical Psychology Program must complete, within their first two years, a pre-dissertation research project, which is the equivalent of a master's-level thesis.

Tuition, Fees, and Payments

Tuition, Fees, and Payments

Important Reminders

Students are not considered registered unless their bills have been paid in full. No time or deferred payments are allowed by the University.

The financial requirements of the University, changing costs, state and legislative action, and other circumstances may require adjustments in the tuition and fees stated or estimated below. The University reserves the right to make such adjustments in these charges as may from time to time be required by the Board of Regents or the Board of Trustees. Students acknowledge this reservation by submitting applications for admission or by registering for classes.

Tuition and application fees are charged at different rates for residents and non-residents of Massachusetts. Prospective students should be sure to refer to the information under "Residency Status" at the end of this section of the bulletin.

All charges are set by the Board of Regents or the Board of Trustees.

Initial Fees

Application Fee

Each application for admission to the University from a student seeking a degree must be accompanied by a *non-refundable* application fee payment of $10.00 for "qualified" Massachusetts residents, $25.00 for non-residents. Checks should be made payable to *The University of Massachusetts at Boston,* and submitted together with completed application forms.

Fees Charged Only in the First Semester

Each *degree-seeking student* is charged two fees at the beginning of his or her first semester as a degree-seeking student. The *pre-registration/ orientation fee* ($25.00) helps to support orientation events for new students. The *recreation fee* ($50.00) helps to support the University's recreational programs and facilities. These fees may not be cancelled or refunded unless the student withdraws before the first day of classes.

Non-degree-seeking students are not required to pay the orientation and recreation fees. Each must, however, pay a *registration fee* of $15.00 at the beginning of his or her first semester as a non-degree-seeking student.

Explanation of Charges in "Tuition and Fees per Semester" Table

Tuition (In-State Rate)

As a state institution, the University of Massachusetts at Boston offers a low rate of tuition to all students entering from the Commonwealth. Eligibility for admission under the low residential rate is determined according to a policy established by the Board of Trustees and detailed under "Residency Status" at the end of this section of the bulletin.

Mandatory Fees

The *student activities fee* is used to support programs and activities beneficial to students, such as recognized student organizations and the University Cultural Events Committee. The *health service fee* supports the University Health Service and its programs. The *athletics fee* supports the University Athletics Program. The *identification card fee* is used to support the cost of making identification cards (with photographs); all continuing students are charged this fee each fall, and all new or re-entering students are charged the fee before the first semester of attendance. The *curriculum support fee* assists the University's efforts to maintain the quality and breadth of its educational programs.

Graduate Tuition and Fees Per Semester, 1988-1989

Tuition	**per credit**	**maximum**
Resident	$73.25	$879.00
Non-resident	$211.25	$2,535.00
Mandatory Fees per Semester	**1-6 credits**	**7 or more credits**
Student Activities	15.00	30.00
Health Service	30.00	60.00
Athletics	20.00	35.00
Identification Card*	2.00	2.00
Curriculum Support	35.00	65.00
Optional Fees		
Medical Insurance*	280.00	280.00
Mass PIRG	4.00	4.00
Voluntary Student Aid Fee	4.00	4.00
State Student Association	1.00	1.00

*Charged one (1) semester per year.

Please note: Under the provisions of the Massachusetts Health Security Act and beginning in the fall of 1989, students taking at least 9 credits who choose not to be covered by the University's medical insurance plan must show that they already have equivalent coverage.

Tuition, Fees, and Payments

Optional Fees

Charges for medical insurance and MassPIRG fees appear on the bills of degree-seeking students; but these students *may choose not to pay these fee charges, providing they notify the University before payment for these charges is due.* Students choosing to pay the *medical insurance fee* will join an insurance plan which provides coverage for health, medical, and surgical care during a twelve month period for injuries or illness during the school year, holidays, and summer vacation. Students who register for the fall semester have only one opportunity to enter or reject this program each year; it is offered on spring semester bills to new spring registrants only. Non-degree-seeking students who wish coverage through the program must pay the fee before the end of the Add/Drop Period. Dependents of married students are not covered under this plan. Coverage for dependents is available at additional cost; students wishing such coverage should inquire at the University Health Service. The *MassPIRG fee* supports the Massachusetts Public Interest Research Group, a student-interest advocacy group. The *Voluntary Student Aid Fee* is part of the University's effort to offset federal cutbacks and the rising cost of higher education by seeking new sources of funding for aid to financially needy UMass/Boston students. No notice of this fee appears on the term bill each student receives from the bursar's office. Those University students wishing to make this voluntary contribution do so by writing "VSAF" on the front or back of this bill, and then adding $4.00 to their total payment.

Program Fee

Each degree-seeking graduate student is required to maintain continuous registration until the degree that the student is seeking has been formally awarded. If a graduate student does not register for course, thesis, or dissertation credits during any semester, the student must pay a *program fee* to maintain continuous registration. The program fee for doctoral students is $50.00 per semester; for master's degree and CAGS candidates, the fee is $25.00 per semester. Note: Payment of the program fee does not extend the time limit for completion of the degree.

Any student who is required to pay a program fee and does not do so by the last day of the Add/Drop Period will be subject to administrative withdrawal from the University. If the student later seeks readmission or applies for graduation, the student must pay all accumulated program fees, as well as a $25.00 readmission fee.

Lab Fees

Certain courses entail the payment of *lab fees* which support course-related activities that would not otherwise be made available. Students enrolled in such courses accept the responsibility to pay the fee.

Commencement Fee

There is a $30 *commencement fee* requisite for graduation. This fee must be paid by the time a student files for graduation.

Cost of Attendance

A budget for the cost of graduate study at UMass/Boston may be compared to any general budget familiar to most people, such as a household or personal budget. Within that budget, a number of factors may change from time to time due to rising labor costs, changes in the costs of goods and services, and other influences.

The sample Graduate Study "institutional budget" below is an estimate (for 1988-1989) of the average cost of attendance and is used by the University when individual applications for financial aid are considered.

Expenses	**Dependent***	**Independent**
(Academic Year)	(9 month period)	(12 month period)
Tuition (full-time, in-state)**	$1,758.00	$1,758.00
Activities Fee	60.00	60.00
Athletics Fee	70.00	70.00
Curriculum Support Fee	130.00	130.00
ID Card	2.00	2.00
Health Fee	120.00	120.00
MassPIRG (optional)	8.00	8.00
Medical Insurance (optional)***	280.00	280.00
State Student Association	2.00	2.00
Room and Board Allowance	1,100.00	4,855.00
Books and Supplies	350.00	350.00
Personal Expense Allowance	725.00	950.00
Transportation	490.00	650.00
Totals	**5,095.00**	**9,235.00**

*Students in this category must be considered legal dependents by the Internal Revenue Service.

**Out-of-state full-time tuition for two semesters is $5,070.00.

*** Under the provisions of the Massachusetts Health Security Act and beginning in the fall of 1989, students taking at least 9 credits who choose not to be covered by the University's medical insurance plan must show that they already have equivalent coverage.

Payment Information

The Bursar's Office

The Bursar's Office handles payments of tuition and fees, and distributes checks to students receiving refunds or University financial aid. (The Bursar's Office will begin to distribute these checks about five weeks after the start of each semester. Checks must be picked up by their recipients at the Bursar's Office.) Location: second floor of Administration Building. Telephone: 929-7150. Teller hours: weekdays, 9:00 am to 3:30 pm.

Payment by Degree-Seeking Students

University policy requires that no registration be considered complete until the semester charges are paid in full. Charges are computed on the basis of courses/programs for which students are registered. The initial bills are sent in July (for the fall semester) and in December (for the spring semester) to all students who have already registered.

Late registrants are billed after the add/drop period. Follow-up billings will be made periodically, reflecting any additional charges, payments, or credits that have occurred within the semester period. Each student must pay all charges in full prior to the due date indicated on the initial bill to avoid late charges or cancellation of registration and financial aid. No time or deferred payments are allowed by the University.

Overdue accounts will be considered sufficient cause for cancellation of registration, as University regulations prohibit final registration, graduation, or granting of credit for any student whose account with the University is unpaid. *Any delinquent accounts will be cause for administrative withdrawal and must be paid prior to readmission to the University.*

Unpaid accounts will be referred for collection action with an additional collection cost of 33.⅓% of the total unpaid.

Payment by Non-Degree-Seeking Students

All non-degree-seeking students must pay in full when they register. If they are Massachusetts residents but fail to complete the residency section of the registration form, they may be charged tuition at non-resident rates.

Important Reminder for Financial Aid Recipients

It is the responsibility of all students receiving financial aid from sources other than the University to see that the University is adequately notified before bills are prepared. Credits for known scholarships are reflected in the bills; credit cannot be given for a scholarship award unless the Bursar has been presented with proof from the donor that the award has been made. If a student's bill does not show credit for an award, the student should contact the source of the scholarship to be sure that such evidence has been, or will be, presented to the Bursar.

Late Payment Fee

Any student who does not make full payment of his or her charges by the date specified on the bill in which the charges are initially listed will be required to pay a late payment fee of $25.00.

Late Registration Fee

Any continuing degree-seeking student who does not register during the Advance Registration Period (usually near the end of the semester preceding the semester for which he or she is registering) will be required to pay a late registration fee of $25.00.

Any new, readmitted, or non-degree-seeking student who does not register by the end of the Add/Drop Period of the semester for which he or she is registering will be required to pay the $25.00 late registration fee.

Tuition and Fee Refunds

A student who voluntarily withdraws from the University for any reason before the sixth week of a semester will be granted a refund or reduction of tuition and fees according to the schedule below: *Note: Failure to attend does not constitute withdrawal.* To withdraw, a student must confer with an advisor in the Office of Graduate Studies and Research and bring a *completed withdrawal form* from this Office to the Office of Graduate Admissions and Records, which will establish the effective date of withdrawal.

After the Add/Drop Period, no refunds will be given for course load reductions. Students withdrawing completely from the University before the sixth week of a semester, and receiving grades of "W" for all courses, will receive refunds. No refunds will be disbursed in other cases where grades of "W" are given. No refunds will be given in cases where academic credit has been awarded.

If a financial aid recipient withdraws from the University, his or her refund will first be applied to the reimbursement of scholarship or loan funds (up to the full amount of the scholarship or loan); any remaining amount will then be refunded to the student or parent. A student who is suspended or expelled from the University for disciplinary reasons forfeits all right to a refund. A student who has not paid in advance will be liable for any amounts due after the reduction in charges.

Refund/Reduction Schedule

Academic Year	Amount Refunded If Advance Payment Has Been Made	Amount Owed If No Payment Has Been Made
A. Before the beginning of the semester (Add/Drop Day)	100%	0%
B. Within the first two weeks of the semester	80%	20%
C. During the third week	60%	40%
D. During the fourth week	40%	60%
E. During the fifth week	20%	80%
F. After the fifth week	no refund	100%

Residency Status

These rules and regulations, approved in 1988 by the University's Board of Trustees, and current as of publication, apply to the classification of students at the University of Massachusetts as Massachusetts or non-Massachusetts residents for tuition and fee purposes.

Part I. Definitions

1.1 **Academic Period**—a term or semester in an academic year or a summer session, as prescribed by the Board of Trustees or under their authority.

1.2 **Continuous Attendance**—enrollment at the University for the normal academic year in each calendar year, or the appropriate portion or portions of such academic year as prescribed by the Board of Trustees or under their authority.

1.3 **Emancipated Person**—for the purposes of residency classification for tuition, a person who has attained the age of 18 years and is financially independent of his or her parents, or if under 18 years of age, (a) whose parents have entirely surrendered the right to the care, custody and earnings of such person and who no longer are under any legal obligation to support or maintain such person; or (b) a person who is legally married; or (c) a person who has no parent. If none of the aforesaid definitions applies, said person shall be deemed an "unemancipated person."

1.4 **Parent**

a. the person's father and mother, jointly;

b. if the person's father is deceased, the person's mother; if the person's mother is deceased, the person's father;

c. if a legal guardian has been appointed by a court having jurisdiction, the legal guardian;

d. if neither the father nor mother is living and no legal guardian has been appointed, the person who then stands *in loco parentis* to the person;

e. if the father and mother are divorced, separated or unmarried, the parent who has been awarded legal custody of the person; if legal custody has not been awarded, the parent with whom the person lives.

With respect to any adopted student the word "adoptive" should be inserted before the words "father" and "mother" wherever used.

1.5 **Reside, residency** or **resident**—shall refer to domicile, i.e., a person's true, fixed and permanent home or place of habitation, where he or she intends to remain permanently.

Part II. Classification

2.1 For the purpose of assessing tuition and fees, each student shall be classified as a "Massachusetts resident" or a "Non-Massachusetts resident." A person shall be classified as a Massachusetts resident if he or she (or the parent of an unemancipated student) shall have resided in the Commonwealth of Massachusetts for.purposes other than attending an educational institution for twelve months immediately preceding the student's entry or reentry as a student.

Physical presence for this entire twelve-month period need not be required as long as the conduct of the individual, taken in total, manifests an intention to make Massachusetts his or her permanent dwelling place.

Part III. Determination of Residency

3.1 Proof of Residency

a. Each case will be decided on the basis of all facts submitted with qualitative rather than quantitative emphasis. A number of factors is required for residency to determine the intention of the person to maintain permanent residence in Massachusetts. No single index is decisive. The burden of proof rests on the student seeking classification as a Massachusetts resident.

b. The following shall be primary indicia of residency:

1. For unemancipated persons, the residency of parents, having custody, within Massachusetts;

2. Certified copies of federal and state income tax returns;

3. Permanent employment in a position not normally filled by a student;

4. Reliance on Massachusetts sources for financial support;

5. Former residency in Massachusetts and maintenance of significant connections there while absent.

c. The following shall be secondary indicia of residency, to be considered of less weight than the indicia listed above in subsection b:

1. Continuous physical presence in Massachusetts during periods when not an enrolled student;

2. Military home of record;

3. All other material of whatever kind or source which may have a bearing on determining residency.

3.2 Proof of Emancipation

A student asserting that he or she is an emancipated person shall furnish evidence to support such assertion. Such evidence may include:

a. Birth certificate or any other legal document that shows place and date of birth;

b. Legal guardianship papers—court appointment and termination must be submitted;

c. Statements of the person, his or her parent(s), guardian(s), or others certifying no financial support;

d. Certified copies of federal and state income tax returns filed by the person and his or her parent(s);

e. Where none of the foregoing can be provided, an affidavit of the emancipated person in explanation thereof and stating fully the grounds supporting the claim of emancipation.

Residency Status

3.3 Presumptions, etc.

a. Residency is not acquired by mere physical presence in Massachusetts while the person is enrolled in an institution of higher education. (See Section 2.1)

b. A person having his or her residency elsewhere than in Massachusetts shall not be eligible for classification as a Massachusetts resident for tuition purposes, except as herein provided.

   1. Any person who is registered at the University as a Massachusetts resident shall be eligible for continued classification as a Massachusetts resident for tuition purposes (until attainment of the degree for which he or she is enrolled) during continuous attendance at the institution.

   2. The spouse of any person who is classified or is eligible for classification as a "Massachusetts resident" is likewise eligible for classification as a "Massachusetts resident." This provision will not apply in the case of a spouse in the United States on a nonimmigrant visa.

   3. A person who is an immigrant/permanent resident of the United States (or has applied for such status) is eligible to be considered for Massachusetts residency for tuition purposes provided that he/she meets the same requirements for establishing residency in Massachusetts as are required of a United States citizen. Non-citizens who are in (or who have applied for) refugee/asylum status are likewise eligible to be considered for Massachusetts residency for tuition purposes provided that he/she meets the same requirements for establishing residency in Massachusetts as are required of a United States citizen. All non-citizens must provide appropriate documentation to verify their status with the United States Immigration and Naturalization Service.

   4. Those students whose higher educational pursuits are funded by the Department of Welfare, the Massachusetts Rehabilitation Department, or any of the other Commonwealth of Massachusetts public assistance programs.

c. A person does not gain or lose in-state status solely by reason of his or her presence in any state or country while a member of the Armed Forces of the United States.

d. For the purposes of this policy the following persons shall be presumed to be Massachusetts residents:

   1. A member of the Armed Forces of the United States who is stationed in Massachusetts on active duty pursuant to military orders, his or her spouse and dependent students.

   2. Full-time faculty, professional staff, and classified staff employees of the University of Massachusetts system and their spouses and dependent students.

Part IV. Appeals

Any student or applicant who is unwilling to accept the initial ruling relative to his or her residency classification may file a "Residency Reclassification Form."

Any student or applicant who is unwilling to accept the ruling related to his or her residency reclassification may submit an appeal to the University's Residency Appeal Committee. The decision by this Committee is final and may not be appealed further.

In any case where the Admissions Office is unable to make an initial determination based on the evidence submitted, the student or applicant may be required to submit a "Residency Reclassification Form" to the Admissions Office for review before being finally classified as a resident or a nonresident.

Part V. Penalties

Misrepresentation in or omission from any evidence submitted with respect to any fact, which if correctly or completely stated would be grounds to deny classification as a Massachusetts resident, shall be cause for exclusion or expulsion from or other disciplinary action by the University.

Assistantships and Financial Aid

Assistantships

The University offers a limited number of graduate assistantships in teaching or research to qualified students. Applicants for admission to graduate programs should consider applying for assistantships.

Stipends and Tuition Waivers

All assistantships carry stipends. The amount of each stipend depends upon the workload of the assistant receiving the stipend. The stipend for a full-time assistant appointed for a two-semester period is normally $4,000. An assistant who has been awarded at least half the normal full-time stipend is eligible for a tuition waiver.

Responsibilities and Periods of Appointment

Full-time graduate assistants are expected to work approximately fifteen hours per week. Some assistants hold part-time appointments. Some assistants are given teaching responsibilities or responsibilities related to teaching; others assist in research work of various kinds. No assistant may be appointed for a period longer than two semesters. Reappointment is possible, but the University is under no obligation to reappoint any student to an assistantship.

Eligibility

Assistants must be currently enrolled degree-seeking graduate students in good academic standing, registered for at least six credits.

Applications

Graduate program directors are responsible for recommending to the Office of Graduate Studies and Research that students be awarded assistantships. Any student wishing to apply for an assistantship should therefore contact the appropriate graduate program director for information about the application procedure. Information about assistantships is also available from the Office of Graduate Studies and Research.

Students seeking assistantships should apply as early as possible—preferably at least ten weeks in advance of the period for which they are seeking appointment.

Financial Aid

Through UMass/Boston's Office of Student Financial Management, grants, loans, and part-time and summer employment opportunities are available to degree-seeking graduate students entering the University in the fall and the spring.

Applicants are encouraged to apply early as funds are limited. Applicants are automatically considered for every form of University administered aid for which they are eligible, once they have applied for financial assistance.

Note: All eligible students have the right to apply for financial aid and must be considered fairly and equally, without regard to race, color, sex, age, religion, national origin, sexual orientation/preference, handicap condition, or veteran status.

A complete list of other student rights and responsibilities in connection with financial aid may be found in this publication under "Regulations, Procedures, and Degree Requirements."

Application Procedures

1. The applicant must submit a completed Graduate and Professional School Financial Aid Service (GAPSFAS) Form. GAPSFAS forms are used to determine eligibility for Perkins Loans (formerly National Direct Student Loans) and College Work-Study grant support. GAPSFAS forms may be obtained from the Office of Student Financial Management or from the applicant's current college or university. The completed form should be mailed to the Graduate and Professional School Financial Aid Service, Box CN6660, Princeton, NJ 08541-6660. All other supporting documents should be submitted to the Office of Student Financial Management.
2. The applicant must submit Financial Aid Transcripts from each institution previously attended. The appropriate forms are available in the Office of Student Financial Management.
3. The applicant must complete the UMass/Boston Integrated Income Form, which can be obtained from the Office of Student Financial Management.
4. The applicant may be required to submit other documents verifying income. These documents may include notarized copies of the applicant's and/or his or her parents' 1040 tax forms; letters from government agencies (such as AFDC, the VA, Social Security) through which the applicant and/or his or her family is receiving nontaxable income.

Although no deadline has been established for incoming students, such students should apply for financial aid and admission at the same time. Returning graduate students should apply for aid by the end of March. Applications received after the end of March will be processed on a first-come, first-served basis. Awards will be made on the basis of available funds.

How Awards are Made

The Office of Student Financial Management uses the following formula to determine the amounts of awards.

Applicable Institutional Budget
minus
Student and/or Family Contribution
equals
Student's Financial Need

An *institutional budget* is a projection of a typical student's school and living expenses for a nine or twelve-month period. The Office establishes such budgets each year in several categories (according to students' living situations) and reviews these budgets at intervals. The amount of a *student and/or family contribution* is determined by an analysis of the information on a student's Financial Aid Form. Financial aid is then given in "packages" combining grants, loans, and part-time job opportunities. In awarding a financial aid package, the Office of Student Financial Management takes into account the student's *financial need,* but cannot guarantee that it will be able to meet a student's total "need", or that it can offer the particular kind of aid desired by the student.

Federal and State Funding Sources

Students may be eligible to receive aid through one or more of the federal and state programs listed below. *Note: to meet minimum eligibility requirements, a student must be a citizen or a permanent resident of the United States and must be registered as a degree-seeking student for at least six academic credits per semester.*

1. *Perkins Loans* (formerly *National Direct Student Loans)* are made at a 5% interest rate to both undergraduate and graduate students. Students must begin to repay NDSL loans six months after graduation or withdrawal.
2. Through the *College Work-Study Program (CWS),* job opportunities are available on and off campus, during the academic year and during the summer, to undergraduate and graduate students. Students must work to earn CWS funds for which they are eligible.
3. *Guaranteed Student Loans (GSL or HELP loans)* are made at an 8% interest rate to graduate students. Students may use GSL loans to supplement other financial aid; and students not otherwise eligible for financial aid may be eligible for GSL loans. Students must begin to repay GSL loans six months after graduation or withdrawal. The maximum any graduate student may borrow under the GSL program is $7,500 per year. *Note:* NDSL and CWS grants are awarded through the Office of Student Financial Management. GSL Loans are made through local banks and credit unions.

Financial Aid

4. *Massachusetts Graduate Grants* are available to students who have been residents of Massachusetts for at least two years before applying and who are registered for at least six credits per semester.

Other Funding Sources

Students may be eligible for aid from sources other than those listed above. Students seeking information on where and how to find sources of financial assistance for graduate study, different forms of financial aid and their respective features, and a realistic general view of graduate financial aid today should obtain a copy of *Financial Aid for Graduate Study* from the UMass/Boston Office of Career Services (929-7125). They should also explore reference works listing scholarship opportunities in public libraries or in the resource library at the Office of Career Services.

Information and Correspondence

Students who have questions about financial aid or who wish to obtain a Financial Aid Form or to submit documents supporting an application for aid should use the address and telephone number below.

Office of Student Financial Management
University of Massachusetts at Boston
Harbor Campus
Boston, MA 02125-3393
(617) 929-7210

Students are strongly advised to keep copies of *all* documents and correspondence regarding financial aid they submit to the University or elsewhere.

Facilities

Library

The University Library maintains a book collection numbering more than 500,000 volumes, and currently subscribes to more than 3800 domestic and foreign journals and newspapers. Its primary holdings are in the Joseph P Healey Library, centrally located on the Harbor Campus plaza and easily accessible from the bridge connecting all campus buildings. It has extensive bibliographic and reference holdings, and a growing collection of government documents. The CPCS Library at the Downtown Center has a collection heavily weighted towards the social sciences, serving students and faculty at the College of Public and Community Service. Together these collections support the undergraduate and graduate programs of the University.

All holdings of both libraries are entered in the easy to use on-line public access catalog (OPAC) which has replaced the library's card catalog and which is accessible at both the Harbor Campus and the Downtown Center. This catalog contains a record of every book, journal, government document, and audio tape held by the University Library. From outside the Library, OPAC can be used by anyone who has either a terminal and a modem, or a personal computer with telecommunications software and a modem. On-line bibliographic searching is also available.

The University belongs to the Greater Boston Consortium of Academic and Research Libraries, whose membership includes the libraries of Boston College, Boston University, Brandeis University, MIT, Northeastern University, Tufts University, UMass/Amherst and Wellesley College. Graduate students may use materials on site at any of these libraries, and are eligible to apply for Consortium cards granting borrowing privileges at these institutions.

Borrowing privileges, as well as on-site use, are also available at libraries of the ten institutions belonging to the Fenway Consortium and at the libraries of the Commonwealth's 28 public colleges and universities. In addition, graduate students are eligible to borrow through the Healey Library's Interlibrary Loan Department, which has access to collections throughout the United States and in many other countries.

Computing Services Center

UMass/Boston's Computing Services Center provides hardware, software, and services to facilitate and support instructional activities at the University.

The Center's hardware resources include six DEC VAX computers, and an array of other facilities: four labs equipped with Apple microcomputers, five with IBM, a sophisticated graphics lab, and an adaptive computing lab for disabled students.

Software resources serve a broad range of faculty and student needs. They include WordPerfect wordprocessing, standard at the University, and a wide variety of language compilers, statistical packages, report generators, and database management packages.

The Computing Services Center also provides users with access to resources at other Massachusetts public colleges and universities, and connects UMass/Boston through its Bitnet node to hundreds of higher education institutions throughout the world.

Further information about the Center's computer resources and facilities is available from User Services, 929-7802, or in the consulting area located on the UL level of the Healey Library.

Athletic Center

The Catherine Forbes Clark Athletic and Recreation Center at the Harbor Campus provides a broad range of modern facilities to the University community. The Clark Center houses a gymnasium, a skating rink, and a competition-sized pool, all with ample seating for spectators, as well as gymnastic, weight-training, and exercise rooms, and a dance studio. The building provides a home for the varsity basketball and ice hockey teams and the basis for expansion into other intercollegiate varsity sports. Outdoor tennis courts, an athletic field, and a 400-meter track adjoin the Clark Center.

Media Services

UMass/Boston's Media Services provide a full range of audio-visual equipment, located in several Media Labs, and consultation, for instructional and other University-related purposes. The Media Labs provide access to display and mini-production audio, video, and mixed media equipment on a University-wide scheduled basis. In addition, language laboratories are available for use in conjunction with foreign language courses. The tapes used in laboratory sessions are closely correlated with classroom studies and many are produced within the Media Center. The Center's sophisticated media production facility, located in the Healey Library, is equipped with a computer-assisted video editing system and a multitrack audio studio.

John F Kennedy Library

The John F Kennedy Presidential Library, a public institution for education and research, stands on the coastal edge of the Harbor Campus. The IM Pei-designed facility was established to preserve and make available the documents and memorabilia of President Kennedy and his contemporaries in politics and government. Its archival collection includes approximately twenty-eight million pages of documents, six and a half million feet of film, and over one hundred thousand still photographs. The JFK Library is linked to the University by a series of educational programs allowing students and their instructors to share in its rich resources.

State Archives

The archives of the Commonwealth of Massachusetts are housed adjacent to the Harbor Campus in the new Massachusetts Archives and Commonwealth Museum. Members of the University community can benefit greatly from this rich resource, whose research materials cover three and a half centuries.

Programs and Services

Programs and Services

Athletics and Recreation

The Clark Athletic Center is at the hub of UMass/Boston's wide-ranging athletics and recreation program. In addition to the Clark Center, the Harbor Campus offers a diversity of recreational facilities—including a gymnasium, weight training rooms, and handball and squash courts—housed in other buildings. The facilities are open to students, faculty, and staff, as well as to community residents, according to schedules issued each semester.

Outdoor facilities include two athletic fields marked for football, soccer, softball, volleyball, and horseshoes. The University's sailing dock moors a fleet of Mercury sailboats and rowing dories available for use during the spring, summer and fall. A swimming test is required of all who wish to participate in water sports. For sailing, a helmsman test is administered by the sailing instructor; once the test is passed, boats may be taken out whenever available.

Information about schedules and locations may be obtained from the Athletics Department (929-7575).

Bookstore

Located in the Robert H Quinn Administration Building, the bookstore carries all textbooks required for courses, a complete line of art and school supplies, and gift items. It also carries a selection of paperbacks. Special orders can be made for almost any other book in print. The bookstore also buys and sells used books. It is open Monday through Friday, 8:30 am-5 pm, and has longer hours during the first weeks of each semester (929-7250).

Child Care

The University operates two licensed Child Care Centers for children of University students, faculty, and staff. The toddler program is for children between the ages of eighteen months and three years; the pre-school program is for children from three to five years old. Teachers in these Centers work together with student teachers, work-study students, and volunteers to encourage children to become aware of themselves and their potential, and to develop their capacities for self-reliance, cooperation, initiative, and responsibility. There are places for 90 children in the program, and several forms of financial assistance are available for eligible families (929-7290).

Disabled Student Center

The Disabled Student Center serves physically disabled students, and those funded through the Massachusetts Rehabilitation Commission, with offices at both the Harbor Campus and the Downtown Center. Its services include counseling for individual students, peer counselor training, reading and tutorial services, assistance with University billing procedures, referrals for additional assistance, and places for students to discuss with staff members and peers their educational progress and any related problems. A tape library, a Braille library, typewriters, and Braille equipment are available at the Harbor Campus. The Center attempts to meet the needs of any student who requests its services (929-8240).

Campus Ministry

The Campus Ministry is an interfaith chaplaincy service actively involved in the spiritual and human development of students, faculty, and staff. Protestant, Catholic, and Jewish chaplains offer liturgical, educational, and spiritual programs. Among these programs are daily prayer, mid-week liturgies, scripture seminars, study groups, individual counseling, spiritual direction, the Bread for the World Study/Action Group, the Bible Study and Fellowship program, and retreats. The Campus Ministry also operates a lending library of theological and spiritual books. (929-7908).

Career Services

The University's Office of Career Services provides a variety of programs for undergraduate and graduate students who are on their way into the job market for the first time, or who are changing careers. Assistance takes many forms: workshops, individual counseling, an annual Job Fair, employer contact lists, and current job listings. The Career Services Resource Library provides a broad base of career-related information in many areas, and a database of occupational information is available through the computerized Guidance Information System program. The Office also maintains a credential file for the convenience of students and alumni. Further information on all these programs is available from the Career Services Office at 929-7125.

University Health Service

The primary goal of the University Health Service is the maintenance of good health among UMass/Boston students. To that end, the service provides care for the acute, episodic, and short-term problems common among students. For health problems requiring more sophisticated or long-term care, the service maintains a referral list of carefully screened and selected general practitioners, psychotherapists, and community health care facilities.

As a registration requirement, every student must complete a Student Health History and Immunization Report. Through a careful review of these reports, the Health Service is alerted to any pre-existing medical problems that may require immediate attention or changes in a student's academic or athletic program. All medical reports are privileged and confidential; access to a particular student's file may be obtained only with the student's written permission.

The Health Service is supported by mandatory student health fees. Optional supplemental health insurance coverage is available for those medical and surgical services not provided on campus. Further information on the student insurance plan may be obtained through the Health Service.

The main Health Service facilities at the Harbor Campus are staffed by physicians and other specialists in general practice, dermatology, endocrinology, gynecology, internal medicine, surgery, psychology, social work, and health education. Students at the Downtown Center may make use of all these services; in addition, a satellite clinic there is staffed by a nurse practitioner and a clinical psychologist. A physician has office hours at the satellite clinic one day every week.

The Health Service's main phone number is 929-7111.

Student Information Services (INFO)

INFO is the one-stop communications network and informational resource/referral service for the Harbor Campus and the Downtown Center. Committed to gathering and disseminating information throughout the University community, INFO provides a multitude of communications-related services and serves as the public relations arm of the Division of Student Affairs.

To facilitate the timely delivery of student information services through both print and broadcast media, INFO works closely with University radio station WUMB-FM and with HarborType, an on-campus typesetting and composition shop.

In addition, INFO maintains information centers at both the Harbor Campus and the Downtown Center, for registration and referral of information about University events and activities. INFO logs campus information; publishes *The Commonwealth,* the monthly newspaper of the Division of Student Affairs, and *The Weekly Bulletin*, the weekly calendar of University events and notices; stamps all posters for display on campus; publishes and distributes University publications and announcements; provides a telephone "hotline" information service, a daily listing of University activities; and maintains display areas for University publicity.

Programs and Services

INFO's responsibilities also include issuing University ID cards to new students, and presenting such audio-visual productions as *We Are UMass/Boston*, a video production that acquaints people with various aspects of student life. INFO also sponsors University special events and provides one-on-one information referrals for students to other campus programs and services (929-7708).

Student Activities

The extracurricular life of the University centers on activities sponsored primarily through the Office of Student Activities and funded by the Student Activities Trust Fund. Established by the University Board of Trustees, the fund is maintained by mandatory student activities fees, and is administered by a professional staff following recommendations made by an elected student committee.

The fund helps to support numerous cultural and social events, community programs, publications (e.g., a student newspaper, *The Mass Media*), and recognized student organizations (clubs). The fund also provides support for the Harbor Gallery, the Wits' End Café, the University radio station, (WUMB-FM, 91.9), HarborType, and a ticket series for reduced rates at Boston area cultural and athletic events. Further information about current program offerings is available from the Student Activities Office (929-8260).

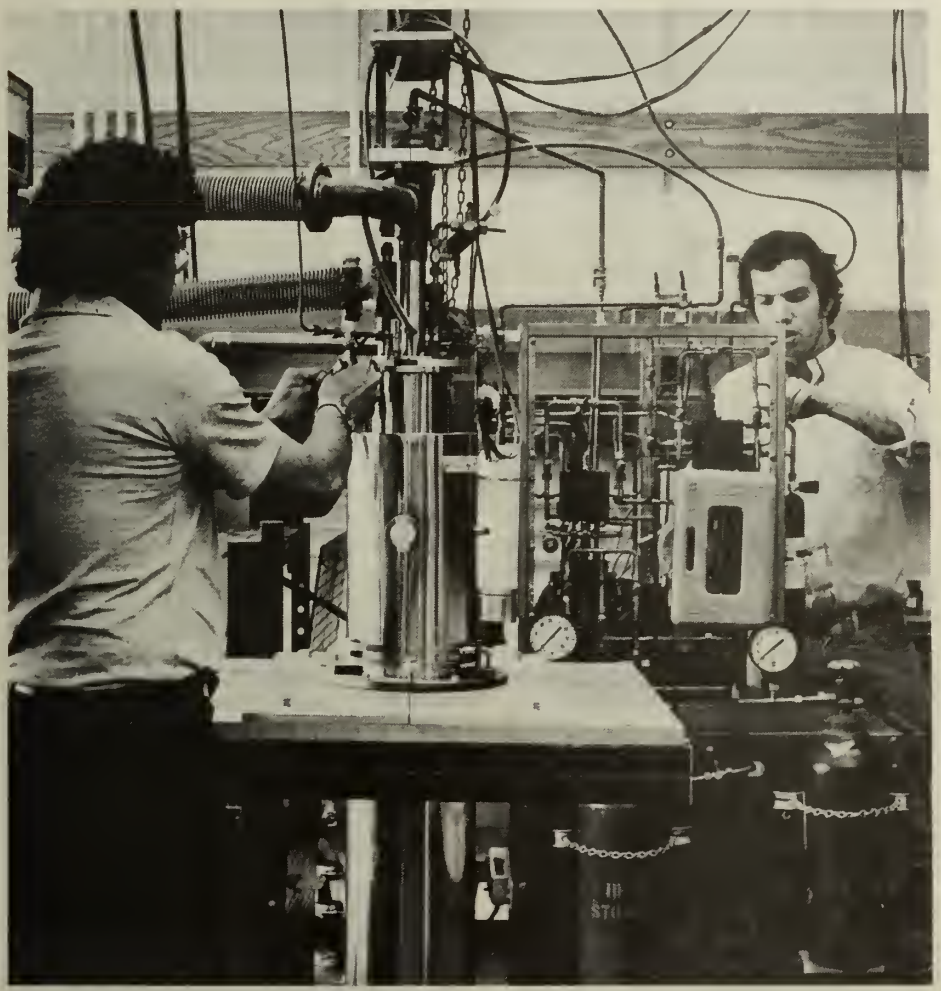
Graduate Student Assembly

The recognized graduate governance structure at the University of Massachusetts at Boston is the Graduate Student Assembly. This Assembly recognizes the need for a graduate organization dedicated to the goals, objectives and interests of graduate students.

Graduate Handbook

A Graduate Handbook which details the policies, practices and guidelines affecting graduate students is available from graduate program directors or from the Office of Graduate Studies and Research, 2nd Floor, Robert H Quinn Administration Building.

Regulations, Procedures, and Degree Requirements



General Academic Regulations

All students should be familiar with the regulations and procedures described below. *Note:* none of these regulations or procedures shall preclude the development of *more* restrictive regulations and procedures by any individual graduate program.

Graduate Course Numbering System

500-599 Post-graduate/undergraduate credit (unless otherwise specified)
600-699 Master's or first-year graduate
700-899 Doctoral and advanced graduate
900-999 Post-terminal degree

Fixed Numbers (Post-graduate/Undergraduate)
590 Experimental courses
591-594 Seminars, variable titles
595-596 Independent Study
597 Special topics, variable titles

Fixed Numbers (Graduate)
690, 790, 890 Experimental courses
691-694, 791-794, 891-894 Seminars, variable titles
695-696, 795-796, 895-896 Independent Study, variable titles
697, 797, 897 Special topics, variable titles
698 Practicum
699 Master's thesis
899 Doctoral dissertation

Registration Procedures

Both newly accepted and currently enrolled students must begin the course registration process by conferring with their graduate program directors. New students entering in the fall semester register during late August; new students entering in the spring semester register in late January. Currently enrolled students register during the advanced registration periods in April (for the fall semester) and November (for the spring semester). An "Add/Drop" period, usually five days in length, is provided at the beginning of each semester for students wishing to make changes in their schedules. All changes must be approved by the appropriate faculty member and graduate program director.

Continuous Registration

Each degree-seeking graduate student must maintain continuous registration until the degree sought by the student has been formally awarded. If the student does not register in any semester for course, thesis, or dissertation credits, the student may maintain continuous registration by paying a program fee. For further information, see "Program Fee" in the "Tuition, Fees, and Payments" section of this publication.

Re-taking Courses

Unless otherwise noted a course may be taken more than once but may be offered only once toward degree requirements.

Graduate Grading Policy

For graduate students, the University uses a system of letter grades* that are equivalent to numerical " quality points" according to the following table.

Letter Grade	Quality Point Equivalent
A	4.00
A–	3.75
B+	3.25
B	3.00
B–	2.75
C+	2.25
C	2.00
F	0.00

The quality points for each grade are multiplied by the number of credits for the course, and the totals for all courses are added; this result is the student's cumulative quality point figure. The cumulative quality point figure is divided by the number of cumulative credit hours carried; this result is the student's cumulative quality point average.

Graduate students may also be given grades of "Inc" (Incomplete), "Y" (In Progress), and "SAT" (Satisfactory). Explanations of these grades are below.

Graduate students enrolled in undergraduate courses are graded according to this graduate grading policy.

Incompletes: A student can obtain credit for an "incomplete" only by finishing the work of the course before the end of one calendar year from the time of enrollment in that course. At the end of that period, if a grade is not submitted an F (Failure) will be recorded. The initiative in arranging for the removal of an "incomplete" rests with the student. This regulation does not apply to thesis and dissertation credits but does apply to terminal project credits.

Practicum, Thesis and Dissertation Credits (Practicum 698, Thesis 699 and Dissertation 899): The required number of thesis and dissertation credits varies by program. Credits range up to a maximum of 10 for masters' theses and from 10 to 27 for doctoral dissertations. No student is exempt from this requirement; normal tuition rates will apply. These credits will be graded Y (In Progress) until the thesis or dissertation has been accepted by Graduate Studies, at which time these credits will be converted to SAT (satisfactory).

Note: an exception to this rule is the Human Services Program, which has a competency-based curriculum and therefore does not award letter grades.

Academic Dismissal

A student who in any two semesters, consecutive or otherwise, has semester averages of below 2.8 is subject to academic dismissal upon recommendation of the graduate program director to the Dean of Graduate Studies and Research.

Academic Average for Graduate Degrees

A student must maintain a cumulative average of 3.0 in courses taken to satisfy degree requirements in order to graduate.

Satisfactory or Reasonable Progress

A student must make satisfactory or reasonable progress toward completion of a degree program within the Statute of Limitations for that degree. A student who is not making satisfactory or reasonable progress is subject to termination upon the recommendation of the graduate program director to the Dean of Graduate Studies and Research.

Maximum Credit Load

A graduate student may register for up to 15 credits during the fall and spring semesters and nine credits during the summer. Any student who wishes to register for more than the maximum credit load must secure written permission from the graduate program director and approval from the Office of Graduate Studies and Research.

Full-time and Part-time Status

For most purposes, Graduate Studies defines full-time as nine or more credits and part-time as eight or fewer credits. Doctoral candidates engaged in dissertation research may be considered full-time students regardless of the number of dissertation credits for which they register, provided their graduate program certifies that they are working full-time on research. Students seeking financial aid should be certain to obtain detailed information about full-time and part-time status requirements from the Office of Student Financial Management.

Course Changes and Withdrawals

1. To add, drop, change or withdraw from a course, students must obtain the written approval of the instructor concerned and their graduate program director. Signed cards are to be filed with the Office of Graduate Admissions and Records.

   During the "Add/Drop Period"—usually five days at the beginning of each semester—a student may add, drop, or change courses without penalty; that is, no entry will be made on the student's permanent record. *No courses may be added after this period.* Signed cards are to be filed with the Office of Graduate Admissions and Records.

General Academic Regulations

After the Add/Drop Period but before the withdrawal deadline noted for each term in the academic calendar, a student may withdraw from courses with a grade of W provided approval is obtained from the instructor and the graduate program director. Note: no refunds are given for course withdrawals. See "Refund/Reduction Schedule" under "Tuition, Fees, and Payments."

2. Students may withdraw from the University before the last day of classes of a semester, although the effective date of withdrawal is that on which all forms are completed, signed and returned to the Office of Graduate Admissions and Records. Students withdrawing receive a W for each course in which they are enrolled. Failure to complete a withdrawal form will result in the recording of the grade of F (Failure) for all courses at the end of the term. To withdraw from the University, a student must do the following:

   a. Consult with the graduate program director.
   b. Receive clearance from any University office in which financial charges have been accrued.

Transfer of Courses and Credits Taken Over and Above Credits Earned for a Bachelor's Degree

A University of Massachusetts at Boston undergraduate student in the senior year who will earn during this year more credits than needed for the bachelor's degree may register concurrently for graduate credits at the University of Massachusetts at Boston after securing the permission of the major advisor and of the graduate course instructor. The student registers for these credits with the Office of Graduate Admissions and Records. Graduate Studies and Research will accept a maximum of six credits earned in this way. After completing the courses, if the student wishes to transfer them to a graduate program, the Office of Graduate Admissions and Records should be requested to send to Graduate Studies and Research an official statement listing the courses, credits, and grades, and certifying that they were over and above those needed by the student for the bachelor's degree. Graduate Studies and Research will then certify these courses on a permanent record card and supply the Office of Graduate Admissions and Records with a document bearing this legend: "Approval given (date) to transfer the following course(s) and credits, earned over and above credits required for the bachelor's degree, toward the master's degree."

Academic Honesty Policy

It is the expressed policy of the University that every aspect of graduate academic life, related in whatever fashion to the University, shall be conducted in an absolutely and uncompromisingly honest manner by graduate students. For complete information on University policy in this area, see the section below on "Student Rights and Responsibilities."

Foreign Language Examinations

Under Graduate Committee policy, each academic program establishes foreign language requirements for its own advanced degree candidates. The program determines both the number of foreign languages and the level of competency required. A foreign language is defined for this requirement as a language other than the candidate's native tongue, in which there is a significant body of literature relevant to his or her academic discipline.

Administrative Withdrawal and Reinstatement

A student may be administratively withdrawn from the University if, after due notice, the student fails to satisfy an overdue financial obligation to, or comply with certain administrative requirements of, the campus of the University of Massachusetts at which the student is registered.

Section I. Conditions Warranting Administrative Withdrawal

Any of the following conditions may warrant administrative withdrawal.

A. Failure to comply with administrative requirements, specifically:

   1. Failure by a student to satisfy an overdue financial obligation to the University, consisting of tuition, loans, library charges, or other student charges, including orientation, student activities, health services, child care, and other such fees as may be established from time to time.

   2. Failure to comply with other administrative requirements, such as the submission of health forms, etc.

B. Forgery, fraud, or falsification of information on any official University form or document, such as Bursar's Clearance Card, grade report, recommendations, transcripts, etc.

C. Certified physical health or mental problems of a hazardous nature.

Section II. Effects of Administrative Withdrawal

If administratively withdrawn, a student shall:

A. Cease to be enrolled and shall not be allowed to complete the current semester or to register for future semesters;

B. Return his or her identification card and any and all other property belonging to the University currently in his or her possession;

C. Receive no further material or notification from the Office of Graduate Admissions and Records concerning University affairs.

Section III./Procedures for Implementing Administrative Withdrawal

A. Procedures to be applied to cases brought under the conditions of Section I.A.

   1. The appropriate administrative official may recommend to the Office of Graduate Admissions and Records that a student be administratively withdrawn from the University.

   2. The administrative official shall make his or her recommendation in writing to the Office of Graduate Admissions and Records, detailing his or her compliance with the following requirements:

      a. The recommendation must be based on one of the grounds set forth in Section I.A.

      b. The facts upon which the recommendation is based must be ascertained and stated precisely and accurately.

      c. An attempt to resolve the matter must have been made by the administrative official by mailing to the student at his or her last known address a written notice of the proposed recommendation for withdrawal and the reasons therefore, such matter not having been successfully resolved within fourteen calendar days of the mailing of said notice.

   3. If the Director of the Office of Graduate Admissions and Records is satisfied that the conditions specified in paragraph 2 of this section have been satisfied, he or she shall send a certified letter to the student at his or her last known address setting forth the recommendation for withdrawal and the reasons therefore, and notifying the student that he or she may within fourteen calendar days after the letter is mailed request a hearing on the matter with the Director. The Director shall include with the certified letter a copy of the Rules and Regulations Governing Administrative Withdrawal.

   4. If the student does not request a hearing with the Director or take action satisfactory to the Director to resolve the matter within the time allotted in paragraph 3 of this section, the Director shall administratively withdraw the student from the University no sooner than the fifteenth calendar day following the mailing of the notice provided for in said paragraph.

   5. If a student requests a hearing within the time allotted in paragraph 3 of this section, the Director shall schedule a hearing at the earliest practicable date. If the Director decides in favor of the administrative withdrawal, the Director shall forthwith withdraw the student.

General Academic Regulations

B. Procedures to be applied to cases brought under conditions B and C of Section I.

1. The appropriate administrative official may recommend to the Administrative Withdrawal Review Committee that a student be administratively withdrawn from the University.

2. The administrative official shall make his or her recommendation in writing to the Administrative Withdrawal Review Committee detailing his or her compliance with the following requirements:

   a. The recommendation must be based on one of the grounds set forth in Section I.B or C.;

   b. The facts upon which the recommendation is based must be ascertained and stated precisely and accurately;

   c. An attempt to resolve the matter must have been made by the administrative official by mailing to the student at his or her last known address a written notice of the proposed recommendation for withdrawal and the reasons therefore, such matter not having been successfully resolved within fourteen calendar days of the mailing of said notice.

3. If the Administrative Withdrawal Review Committee is satisfied that the conditions specified in paragraph 2 of this section have been satisfied, it shall send a certified letter to the student at his or last known address setting forth the recommendation for withdrawal and reasons therefore and notifying said student that he or she may within fourteen calendar days after the letter is mailed request a hearing on the matter with the Committee.

4. If the student does not request a hearing with the Committee or take action satisfactory to the Committee to resolve the matter within the time allotted in paragraph 3 of this section, the Committee shall instruct the Office of Graduate Admissions and Records to administratively withdraw the student no sooner than the fifteenth calendar day following the mailing of the notice provided for in said paragraph.

5. If a student requests a hearing with the Committee within the time allotted in paragraph 3 of this section, the Committee shall schedule a hearing at the earliest practicable date. The student shall have the right to testify and to present witnesses or such other evidence as may be relevant; in addition the student shall have the right to have a physician or attorney present, to cross-examine witnesses, or all of these. The Committee shall hear the case and decide whether facts exist which warrant administrative withdrawal under Section I.B or C. If the committee decides in favor of administrative withdrawal it shall submit to the student a written statement of its findings, its decision, and the conditions under which the student may be reinstated.

6. The student may appeal a decision by the Committee in favor of withdrawal to the Vice Chancellor for Student Affairs within seven calendar days of the Committee's decision. If the student does not appeal the Committee's decision within the seven calendar days allotted, the Committee shall instruct the Director of the Office of Graduate Admissions and Records to withdraw the student. If the student does appeal to the Vice Chancellor for Student Affairs within the time allotted, the Vice Chancellor shall schedule an appointment at the earliest practicable date and at that time shall confer with the student, accompanied by counsel if the student so wishes, regarding the Committee's finding, decision, and determination of reinstatement conditions. If the Vice Chancellor affirms the Committee's decision, he or she shall notify the student of his or her decision, and instruct the Director of the Office of Graduate Admissions and Records to withdraw the student. On appeal from the student, the Vice Chancellor for Student Affairs may modify the reinstatement conditions.

Section IV. Reinstatement

A. Reinstatement from administrative withdrawal brought under the conditions of Section I.A.

1. Any student who has been administratively withdrawn under Section I.A may make arrangements with the Director of the Office of Graduate Admissions and Records for the resolution of the matter. Upon such a resolution satisfactory with the Director, the Director shall forthwith reinstate the student to active enrollment status. The determination of whether a reinstated student shall receive credit for the period for which he or she was withdrawn shall be made by the instructor for each course involved.

2. A student who fails to resolve the matter in the semester during which he or she is withdrawn can be reinstated in a subsequent semester upon satisfaction of the administrative requirements at issue in the University's withdrawal of the student.

B. Reinstatement from administrative withdrawal brought under conditions B or C of Section I.

Any student who has been administratively withdrawn under conditions B or C shall be reinstated only upon satisfaction of the conditions established by the Administrative Withdrawal Review Committee, or by the Vice Chancellor for Student Affairs where the Vice Chancellor has changed reinstatement conditions appealed by the student.

Section V. Administrative Withdrawal Review Committee

The Administrative Withdrawal Review Committee shall be appointed each year by the Chancellor. The Director of the Office of Graduate Admissions and Records shall not be a member of said Committee except that the Director shall sit in place of a regular member in any case wherein said regular member is the administrative official recommending withdrawal. The Committee shall be empowered to make decisions concerning administrative withdrawal as provided above.

Degree Requirements

All requirements for any advanced degrees to be awarded in a given degree-granting period (February, May, September) must be completed by the appropriate deadline. The completed Eligibility for Degree forms must be submitted to the Office of Graduate Admissions and Records by the specified deadline so that all the candidate's credentials can be certified before the degree is actually awarded. Refer to the *Graduate Handbook* for further detailed guidance in the preparation and completion of a program of study.

Master's Degree Requirements

The basic requirements for the master's degree are given below. Students should consult the individual program descriptions for further requirements. Refer to the *Graduate Handbook* and the *Typing Guidelines for Master's Theses and Doctoral Dissertations* for further information on pursuing and completing a program of study. These two publications are available from each graduate program director.

1. Each degree candidate must earn at least thirty graduate credits. Up to six credits of grade B or better may be transferred from other institutions with the consent of the graduate program. Up to six credits may be counted from upper division undergraduate courses, with the consent of the graduate program director and the Office of Graduate Studies and Research. See also "Transfer of Courses and Credits" under "General Academic Regulations."
2. The thesis and general examination may or may not be required by the graduate program, but, if required, they shall be under the supervision of a committee recommended by the program. The thesis committee will consist of members of the faculty chosen with the approval of the Dean of Graduate Studies and Research, and should be appointed as soon as possible after the student's first graduate registration. As soon as the student arrives on campus, and prior to the appointment of a thesis committee, an advisory or guidance committee should be appointed for the student from among the members of the faculty. Once the student has selected his or her thesis topic, the guidance committee may serve as the thesis committee, although the memberships of these two committees are not necessarily the same. No more than ten credits may be earned by means of a thesis.

   The thesis must be approved by all members of the thesis committee and the graduate program director, and reviewed by the Dean of Graduate Studies and Research. The general examination (not limited to the thesis) is conducted by an examining committee of at least three members of the faculty. A majority of the members of the examining committee must recommend the awarding of the degree. If a student offers a thesis, special problems courses shall be limited to six credits.
3. Foreign language requirements are determined by each master's degree program.
4. Course credits used by the student for fulfilling the requirements for a master's degree may not be used by the student for fulfilling the requirements for any other master's degree at this University.

PhD Requirements

Within the guidelines of the Office of Graduate Studies and Research and the candidate's graduate studies program, the graduate program director is responsible for the following:

1. Approving the candidate's program of courses.
2. Approving the procedure for satisfying the language requirements, if any.
3. Arranging for the candidate's preliminary comprehensive examination.
4. Reporting fulfillment of the above requirements to the Office of Graduate Studies and Research.

As soon as the student has passed the preliminary comprehensive examination, the graduate program director of the candidate's program shall recommend to the Dean of Graduate Studies and Research the names of at least three members of the faculty to serve as a dissertation committee. At least two of the faculty so nominated shall be from the candidate's major department. One member shall be appointed from outside the candidate's department. The outside member shall, without exception, be a voting member of the committee. (*Note:* "major department" and "department" refer here to the administrative entity—e.g., the department or program—for which the degree has been authorized.)

It shall be the responsibility of the dissertation committee to approve the dissertation project, to supervise its execution, and to arrange for the final examination of the student. All members of the committee must tentatively approve the dissertation before the final oral examination is scheduled and agree that it is time for this examination to be held. Attendance at the final oral examination is open to all members of the candidate's major department and any member of the faculty. However, only members of the dissertation committee may cast votes. A unanimous vote of the committee is required for the student to pass the final oral examination. If, at the final examination, two members cast negative votes, the candidate will be informed that he or she has not passed the examination. If there is only one negative vote, the degree will be held up pending action of the Graduate Council.

The doctoral degree is conferred upon graduate students who have met the following requirements:

1. Successful completion of all courses and projects specified by the advisor/guidance committee within the guidelines of the candidate's graduate studies program and the Office of Graduate Studies and Research.
2. Satisfactory completion of foreign language requirements. (These requirements are listed in this *Bulletin*.)
3. Passing a preliminary comprehensive examination conducted by the major department. Any student who fails the comprehensive examination may, at the discretion of the examining committee, be permitted a second and final examination.
4. Submission of an approved dissertation prospectus to the Office of Graduate Studies and Research at least seven months prior to the final oral examination (defense of dissertation).
5. Preparation of a dissertation satisfactory to the dissertation committee and the Office of Graduate Studies and Research.
6. Passing a final (at least partly oral) examination conducted by the dissertation committee. This examination shall be primarily concerned with, but not necessarily limited to, the candidate's dissertation. This examination shall be scheduled when all the dissertation committee members and the Office of Graduate Studies and Research agree that the dissertation is sufficiently complete to undergo defense; approval of the dissertation, passing the defense, and/or recommending the degree are not implied by scheduling this examination.

Student Rights and Responsibilities

Degree Requirements

7. Registration for the required number of dissertation credits (refer to "Graduate Grading Policy" under *General Academic Regulations*).
8. A minimum of one academic year as a full-time graduate student in residence at the University. The residence year must consist of two consecutive semesters, either a fall-spring or a spring-fall sequence. In order to qualify for full-time status, a student must be enrolled for nine or more credits per semester, either in regular graduate courses or for doctoral dissertation credits (899) or in some combination of both. To be in residence a student must be physically present on the campus for some part of each week during the semester (although the student need not reside or be domiciled in the Boston area); and may not be employed on more than a one-half time basis during the semester, either within or outside the University.

Requirements for the Certificate of Advanced Graduate Study (CAGS)

CAGS programs provide professional development for educators beyond the master's degree level. The certificate is awarded upon completion of a cohesive 30-credit-hour program designed by the CAGS candidate with the approval of a faculty advisor in the area of concentration. All 30 credits must be earned at the University. Students interested in pursuing the CAGS should be certain to contact the appropriate graduate program director.

Time Limits and Leaves of Absence (All Programs)

Each master's degree candidate must earn the degree within four calendar years of entering his or her degree program.

Each CAGS candidate must earn the certificate within four calendar years of entering his or her CAGS program.

Each PhD candidate must earn the PhD within six calendar years of entering his or her PhD program (or four calendar years, if the student already has a master's degree in the same field).

A part-time graduate student may be granted an additional year to complete degree or certificate requirements upon petition to his or her graduate program director and approval by the Office of Graduate Studies and Research.

A graduate student seeking a leave of absence must petition his or her graduate program director, who in turn must provide justification for the request to the Dean of Graduate Studies and Research. If the Dean grants a leave of absence, the student's time limit is extended appropriately. However, any graduate student on leave of absence must maintain continuous enrollment by paying the program fee every semester during his or her leave.

The University of Massachusetts at Boston recognizes its responsibility to provide students with clear and accurate information about what is expected of them, and what their rights are, as students at UMass/Boston. The documents published here should help to provide such information. Students seeking further clarification or discussion are encouraged to contact the Dean of Students.

Code of Student Conduct

Preamble

A. This Code of Student Conduct is applicable to any student enrolled in or accepted for any course or academic program, regardless of credits or competencies carried, at the University of Massachusetts at Boston. Students who violate these or other regulations shall be subject to disciplinary action and the procedures described herein. These regulations are set forth to give students general notice of prohibited conduct; they should not be regarded as an exhaustive definition of misconduct or construed as a contract between the student and the University. The University reserves the right to amend any provision of this Code.

B. This Code is independent of any proceeding in civil or criminal law in which a student may also be held accountable. Disciplinary action at the University should ordinarily proceed despite the pendency of any other civil or criminal proceedings, and shall not be subject to dismissal solely because of the result of any such proceeding.

C. A student charged with misconduct under this Code shall have the rights of appeal provided herein. No sanction imposed under this Code shall be subject to a grievance or appeal under any other University procedure.

I. Academic Dishonesty and Misconduct

A. Academic dishonesty

The University defines violations of academic dishonesty to include, but not be limited to, the following:

1. Submitting an author's published or unpublished work, in whole, in part, or in paraphrase, as one's own without fully and properly crediting the author, to include submitting unattributed published work, e.g., material from a journal, newspaper, encyclopedia, etc., without proper acknowledgement.
2. Submitting as one's own original work materials obtained from an individual or agency.
3. Submitting as one's own original work material that has been produced through unacknowledged collaboration with others.
4. Using any unauthorized material during an examination, such as notes, tests, calculators, etc.
5. Obtaining answers to examination questions from another person with or without that person's knowledge; furnishing answers to examination questions to another student; using or distributing unauthorized copies of or notes from an examination.
6. Submitting as one's own an examination taken by another person; or taking an examination in another person's place.
7. Gaining or seeking to gain unauthorized access to the computer files of a student or faculty member, or staff member, or altering or destroying those files.

B. Misconduct

The University defines violations of proper conduct to include, but not to be limited to, the following:

1. Forgery, alteration, misuse, or destruction of or unauthorized access to official University records, documents, forms, or identification cards.
2. Furnishing of false or incomplete information to the University.
3. Disruptive conduct, such as any attempt to impair, interfere with, or obstruct the orderly operations of the University community, including:
   a. Obstruction or disruption of teaching, research, or other academic or administrative activities.
   b. Violence, threats of violence, disorderly, lewd, or indecent conduct on University property or at a University-sponsored or supervised function.
   c. Trespass or unauthorized entry.
   d. Unlawful assembly on University property or at a University sponsored or supervised function.
4. Theft of or damage to University property or the property of others on the University premises.

Student Rights and Responsibilities

5. Possession or use on University property or at a University-sponsored or supervised function of firearms or other weapons, fireworks, or chemicals of a dangerous or explosive nature, except as specifically authorized by the Office of Public Safety.
6. Manufacture, or attempted manufacture, or use, possession or distribution of narcotic or dangerous drugs or controlled substances, including but not limited to marijuana and lysergic acid diethylamide (LSD), except as expressly permitted by law.
7. Violation of campus policies on alcohol use.
8. Smoking or carrying lighted cigarettes, cigars, or pipes in areas posted against smoking.
9. Unauthorized possession, use, distribution, or duplication of any key or keys issued for a University building, laboratory, room, or facility.
10. Failure to comply with directives of University officials or other public officials acting in the performance of their duties. Directives must be lawful and conform to University policy and may not abridge the rights of directed individuals. Also, officials must identify themselves prior to initiating said directives to all parties involved.

II. Procedures

A. In cases of alleged academic dishonesty:

1. A faculty member who suspects a student of academic dishonesty must inform the student in writing of that fact within ten school days after the discovery of the alleged violation. Having been informed of alleged academic dishonesty, the student has the right to have a member of the UMass/Boston community of his/her choice (except legal counsel) present in all proceedings to act as an advocate on his/her behalf. The faculty member shall offer to meet with the student to discuss the case. No longer than ten school days after informing the student of the alleged infraction, the faculty member may impose the penalties listed below for academic dishonesty (see Section III, A). If the faculty member has not imposed a penalty within ten school days after having informed the student, the charges shall be considered dismissed.
2. Within ten school days after the imposition of a penalty or penalties, the student may submit an appeal in writing to the faculty member's departmental chair or program head. The chair/program head is encouraged to consult with the faculty member and the student. The student may request a hearing before the departmental chair or program head if the problem is not resolved through consultation. The student shall have the right to be accompanied at such hearing by a member of the University of his/her choice (except legal counsel) to act as an advocate on the student's behalf. The student (or advocate) shall have the right to present evidence and witnesses and to cross-examine other witnesses. Formal rules of evidence shall not be observed; any evidence having reasonably probative value as to a relevant fact may be admitted. No longer than ten school days after the hearing, the chair/program head shall make findings of fact and shall uphold or recommend modifications of the faculty member's decision, but may not him/herself reverse or modify that decision.
3. Within ten school days after the chair/program head's action, the student may submit an appeal in writing to the Dean or administrative head of the faculty member's college or other administrative unit. The Dean/administrative unit head is encouraged to consult with the chair/program head, faculty member, and student. No longer than fifteen school days after the request for an appeal, the Dean/administrative unit head shall uphold, reverse, or modify the decision of the faculty member. Such modifications may include the imposition of penalties beyond those within the faculty member's purview, including any of the penalties for misconduct (see Section III, B).
4. Within ten school days after the Dean/administrative unit head's action, the student may submit an appeal in writing to the Vice Chancellor for Academic Affairs. The Vice Chancellor for Academic Affairs will instruct the Discipline and Grievance Committee to conduct an investigation of the case and to report its findings to him/her within thirty school days after the request for an appeal. No longer than fifteen school days after the report of the Discipline and Grievance Committee, the Vice Chancellor for Academic Affairs shall uphold, reverse, or modify the Dean/administrative unit head's decision. Such modifications may include any of the penalties for misconduct (see Section III, B).
5. Within ten school days after the Vice Chancellor for Academic Affairs' action, the student may submit an appeal in writing to the Chancellor. No longer than twenty school days after the request for an appeal, the Chancellor shall uphold, reverse, or modify the Vice Chancellor for Academic Affairs' decision. Such modifications may include any of the penalties for misconduct (see Section III, B). The decision of the Chancellor shall constitute final University disposition of the matter.
6. Failure of the relevant official to render a decision on any appeal submitted pursuant to paragraphs 2 through 5 within the time limits set forth therein shall be considered an affirmation of the penalty and the student shall thereupon be entitled to proceed to the next level of appeal, if any.

B. In cases of alleged student misconduct:

1. All cases of alleged student misconduct shall be referred in writing to the Dean of Students for investigation. Within ten days of the initial referral, the Dean of Students will give written notice to the student accused of misconduct of the charges being brought, including a description of the acts complained of, the time and place if known, and a summary of the information upon which the charges are based. Within ten school days of receipt of written notice, the student may request a hearing before the Dean of Students. The student shall have the right to be accompanied at such hearing by a member of the University community of his/her choice (except legal counsel) to act as an advocate on the student's behalf. (However, a student charged with conduct that is also the subject of pending criminal proceedings shall in any hearing have the right to the presence of legal counsel for advice; this right shall not include participation of counsel in the hearing.) The student (or advocate) shall have the right to present evidence and witnesses and to cross-examine other witnesses. Formal rules of evidence shall not be observed; any evidence having reasonably probative value as to a relevant fact may be admitted. No longer than thirty school days after notifying the student of the charges, the Dean of Students shall consult with the student and determine whether misconduct has occurred. In cases of misconduct, the Dean of Students may impose the penalties for misconduct listed below (see Section III, B).

Student Rights and Responsibilities

2. Within ten school days after the Dean of Students' action, the student may submit an appeal in writing to the Vice Chancellor for Student Affairs. The Vice Chancellor for Student Affairs will instruct the Discipline and Grievance Committee to conduct an investigation of the case and to submit its finding to him/her within thirty school days after the request for an appeal. No longer than fifteen school days after the report of the Discipline and Grievance Committee, the Vice Chancellor for Student Affairs will uphold, reverse, or modify the decision of the Dean of Students.

3. Within ten school days after the Vice Chancellor for Student Affairs' decision, the student may submit an appeal in writing to the Chancellor. No longer than twenty school days after the request for an appeal, the Chancellor shall uphold, reverse, or modify the Vice Chancellor for Student Affairs' decision. The decision of the Chancellor shall constitute final University disposition of the matter.

III. Sanctions

A. In cases of academic dishonesty, sanctions to be imposed by faculty members shall be one or more of the following:

1. Failure in the assignment in which the infraction occurred.

2. Failure in the course in which the infraction occurred.

3. Failure in the certification of competency in the area in which the infraction occurred.

In addition, the faculty member, in cases in which academic dishonesty has been repeated, or is of an especially serious nature, may recommend to his/her Dean/administrative unit head the imposition of additional penalties including those for misconduct (see Section III,B).

B. In cases of student misconduct, sanctions to be imposed shall be one or more of the following:

1. Oral Admonition: The lightest form of disciplinary action.

2. Disciplinary Reprimand: An official written notice to a student that his/her conduct is in violation of University rules or regulations and will not be tolerated.

3. Disciplinary Probation: A more severe sanction than a reprimand. For the duration of a stated probationary period, the student must demonstrate willingness to comply with University rules or regulations or other stipulated conditions or requirements, which may include (but are not limited to) forfeiture of the privilege of participation in club or team activities or other University-based extracurricular activities.

4. Suspension from the University: Withdrawal from all divisions of the University for a period of time no shorter than the remainder of the semester in progress at the time the sanction is imposed. The period of time for which a suspension will be effective must be stated in writing to the student at the time of its imposition.

5. Expulsion from the University: Permanent separation from the University. An expelled student may not be readmitted to any of the University's academic units.

6. Restitution: The assessment of financial charges or other forms of recompense for any damage or loss incurred by the University or any member of the University community.

In addition to the sanctions for misconduct listed above, the Dean of Students, Vice Chancellor for Student Affairs, or Chancellor when appropriate may require the student to seek counseling as a condition of being allowed to remain at the University. The case may also be referred to state or federal authorities.

In any instance where the continued presence of an individual on campus may pose a threat to his/her own well-being or to the rights or property of the University community, the Dean of Students may impose an interim suspension. This action is designed to prohibit the presence of the student on campus until the case can be resolved in accordance with prescribed campus procedures. This interim suspension is not entered on a student's record and does not affect the student's status except as described above.

Student Right to Review University Records

Educational Rights and Privacy Act

In accordance with Public Law 93-98, the University wishes to inform all UMass/Boston students of their rights to review their education records on file at the University.

This Act sets forth requirements designed to protect the privacy of parents and students with regard to access, review or release of records maintained by educational institutions.

The Act permits current or former students to review the following documents: permanent academic record, admissions, financial, placement, veteran's, counseling, advising and disciplinary records.

Access to these records may also be granted to faculty and staff, parents of a student listed as a dependent on Federal Income Tax returns, authorized federal or state officials auditing education programs, and accrediting associations.

Any UMass/Boston graduate student wishing to examine his or her education record should so request one of the following offices directly:
Graduate Admissions and Records
Graduate Studies and Research
Financial Aid
Health Services
Registration and Records

(NOTE: Other offices sometimes hold copies of education records for their use. Students desiring information on these offices should contact the Division of Student Affairs.)

The following records may not be examined: parents' financial records, medical, psychiatric or psychological records, personal files of faculty or administrative personnel, law enforcement records held by law enforcement officials.

Directory information may be released to third parties without the written consent of the student, provided the student has been given the opportunity to withhold all such disclosure. Directory information includes: the student's name, address, telephone listing, date and place of birth, major field of study, dates of attendance, degrees and awards conferred.

Procedure for gaining access to records: a request by a student for access to a record is made in writing to the office which maintains the record. Within 45 days the office must inform the student when the record will be available. Every office is also obliged to tell students, at their request, who else has had access to their record and why.

The academic record is the only permanent record and is maintained in perpetuity. Medical records are retained by the Health Services Center for 30 years. Admissions records for all applicants must be held for three years.

If a student requests a copy of any part of his or her education record, either for personal use or for release to a third party, the student shall incur the cost of copying not to exceed $5.00.

Any questions and/or challenges concerning these matters should be addressed to the Division of Student Affairs, Administration Building, Third Floor.

Student Rights and Responsibilities

Student Grievance Procedure

The University provides redress, through formal grievance procedures, for students who believe they have grounds for instituting such a grievance. However, it is the University's policy to encourage the informal resolution of disputes or disagreements, before any formal grievance proceeding is initiated.

Students are urged first to try resolving the situation directly with the person involved, next, with the appropriate supervisor or chairperson, and then, if further discussion is required, with the appropriate director or dean.

If all efforts at such informal resolution are unavailing, the student should contact the Dean of Students who will assist him or her in filing a formal grievance.

Student Rights and Responsibilities in Connection with Financial Aid

1. Students are expected to be prompt in applying for aid and in ensuring that support documentation is forwarded in a timely manner to the Office of Student Financial Management. It is strongly suggested that students *plan early*.
2. Each student has a right to expect confidentiality and professionalism in the handling of his or her application for financial aid. This right is carefully protected by the staff of the Office of Student Financial Management.
3. All students have the right to see all materials held in their folders within the Office of Student Financial Management (the exception is the parent's confidential financial information, if the parent(s) or guardian(s) have specifically prohibited disclosure to the student). To do this, a student *must* make an appointment with a Financial Aid Counselor. Members of the Office of Student Financial Management staff, in exercising their responsibilities, also have the right to see a student applicant's folder. *No* other person has this right.
4. Every student has a right to a timely review and award notice, assuming the student has met the stated deadlines and requirements of the Office of Student Financial Management.
5. Every student has the right to review his or her case with a professional counselor in the Office of Student Financial Management.
6. If a student, after such review, remains unsatisfied with the analysis of need and the award of aid, he or she has the right to appeal to the Director of Student Financial Management, the Financial Aid Advisory Committee, and ultimately the Dean of Enrollment Services.
7. It is the responsibility of students and parents to provide all data requested, honestly and completely. Falsification of records or withholding of information pertinent to a decision about aid may result in University action or, in cases where federal funds are extended, in penalties of law.
8. It is the responsibility of students to read all information carefully and completely, and to comply with the stated instructions at all times. Failure to do so will delay awards and may cause students difficulty in registering for classes.
9. Every student is expected to comply with all laws and policies governing aid. This is particularly important in the area of academic enrollment, as a fully-aided undergraduate student is expected to carry no fewer than twelve credit hours, and a fully-aided graduate student is expected to carry no fewer than nine credit hours. Each student is expected to attend classes and progress satisfactorily toward his or her degree.
10. *All* students must present their UMass/Boston identification cards when picking up checks, obtaining confidential information, and keeping appointments with financial aid counselors. *There will be no exceptions to this policy.*

Student Right to Excused Absence Because of Religious Belief

An Act Excusing the Absence of Students for Their Religious Beliefs

In accordance with Chapter 151C, Section 2B of the General Laws of Massachusetts, the University wishes to inform students of their rights under this legislative provision of the Commonwealth of Massachusetts. This section states:

Any student in an educational or vocational training institution, other than a religious or denominational educational or vocational training institution, who is unable, because of his religious beliefs, to attend classes or to participate in any examination, study, or work requirement on a particular day shall be excused from any such examination or study, or work requirement, and shall be provided with an opportunity to make up such examination, study or work requirement which he may have missed because of such absence on any particular day; provided, however, that such makeup examination or work shall not create an unreasonable burden upon such school. No fees of any kind shall be charged by the institution for making available to the said student such opportunity. No adverse or prejudicial effects shall result to any student because of his availing himself of the provisions of this section.

University Policies on Affirmative Action and Sexual Harassment

Affirmative Action

Pursuant to Title VII of the Civil Rights Act of 1964 and Title IX of the Educational Amendments of 1972 and other applicable Federal and State laws, the University reaffirms its commitment to a policy of non-discrimination and affirmative action.

Equal Employment Opportunity: The University pledges to make all decisions regarding recruitment, hiring, promotion, and all other terms and conditions of employment without discrimination on the grounds of race, color, religion, sex, national origin, age, handicap, sexual orientation/preference or other factors which cannot lawfully be the basis for an employment decision.

Any questions concerning this policy should be referred to the Office of Affirmative Action/Sexual Harassment.

Sexual Harassment

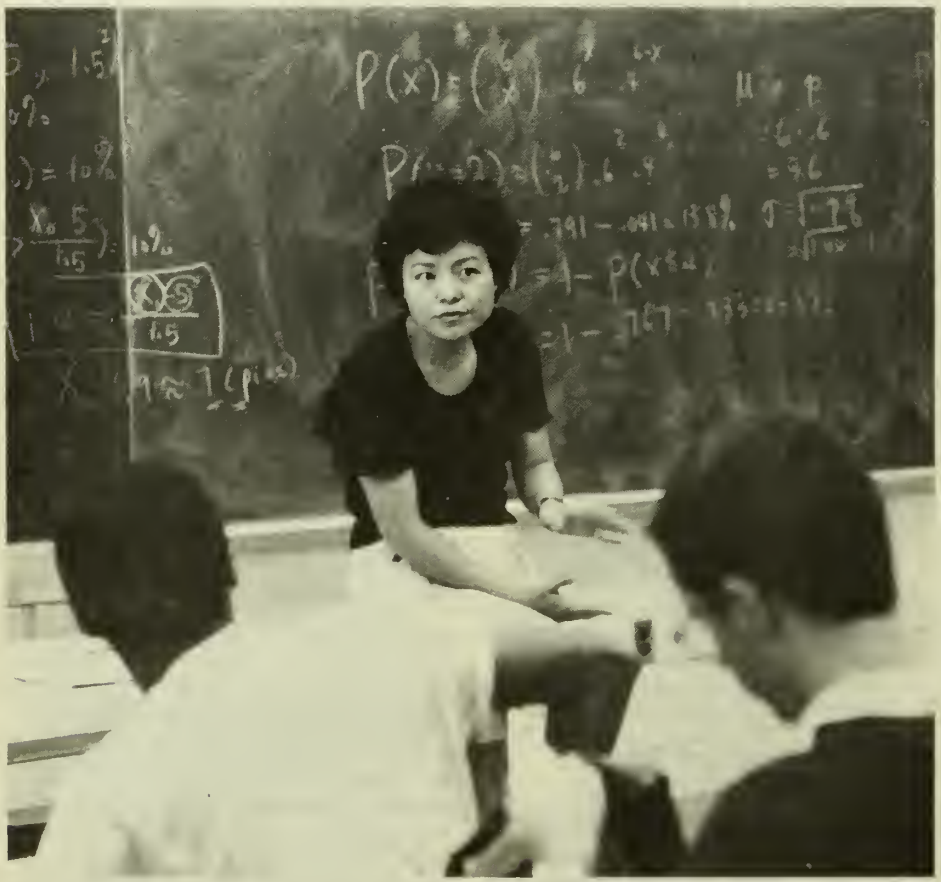
Sexual harassment is generally the imposition of sexual attention on people who cannot refuse it without fear of consequences. As a form of discrimination, sexual harassment is a violation of federal and state law. It is the policy of the University of Massachusetts that no member of the University community may sexually harass another. For purposes of this policy and consistent with federal regulations, sexual harassment is defined as follows:

Unwelcomed sexual advances, requests for sexual favors and other verbal or physical conduct of sexual nature constitute sexual harassment when: 1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or academic work, 2) submission to or rejection of such conduct by an individual is used as the basis for employment or academic decisions affecting such individual, or 3) such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile or offensive working or academic environment.

It is the policy of the University to protect the rights of all persons within the University community by providing fair and impartial investigations of all complaints brought to the attention of appropriate officials. Any member of the University community found to have violated this sexual harassment policy will be subject to disciplinary action.

Any student or employee who believes that he or she is a victim of discrimination should contact the Affirmative Action/Sexual Harassment Office at 929-7075.

Graduate Programs



American Civilization

Faculty

Irving H Bartlett, PhD, *Brown University,* Biography, Intellectual History (American Civilization Program)

Frederick Danker, PhD, *Brown University,* Popular Culture and Folklore (American Civilization Program)

Edwin Gittleman, PhD, *Columbia University,* Colonial and Romantic American Literature, Afro-American Literature (English Department)

Jean Humez, PhD, *Yale University,* Women's Studies, American Literature, Social History (Women's Studies Program)

Seymour Katz, PhD, *Harvard University,* American Literature, Culture Theory (English Department)

Shaun O'Connell, PhD, *University of Massachusetts at Amherst,* Modern American Fiction, The Novel (English Department)

Diane B Paul, PhD, *Brandeis University,* History of Science, Social and Political Thought (Political Science Department)

Martin Quitt, PhD, *Washington University,* Family History in the U.S. (History Department)

Richard Robbins, PhD, *University of Illinois,* American Social History, The New South (Sociology Department)

Lois Rudnick, PhD, *Brown University,* 19th and early 20th Century American Literature and History (English Department)

R Timothy Sieber, PhD, *New York University,* Community Studies, Socialization and Education, Urban Anthropology (Anthropology Department)

Glenn Tinder, PhD, *University of California at Berkeley,* Political Science, Political Thought (Political Science Department)

Julie Winch, PhD, *Bryn Mawr College,* Black Studies (Black Studies Department)

The Program

The Master of Arts Program in American Civilization is directed to professionals in education and government, to community leaders and organizers interested in the history and traditions of American culture, and to all able students interested in a deeper understanding of their own society. The broad purpose of the program is to provide the intellectual tools, the theoretical background, and the practical information which will enable participants to respond positively to the needs, obligations, and opportunities of American citizenship in the years ahead. We aim at a complex interpretation of civilization in the United States which does justice both to the particular divisive forces and to the major unifying symbols in the American experience.

Black Studies and Women's Studies

Areas of faculty interest within the American Civilization Program include black studies and women's studies. We encourage inquiries and applications from students interested in examining questions of race and gender in the American context.

Summer Institute For Citizenship Education

A cooperative endeavor between the John F Kennedy Library and the University's College of Education, this program offers three graduate credits which may be applied toward the MA in American civilization.

Degree Requirements

Candidates for the MA degree in American civilization must satisfactorily complete 30 credits of graduate work, including a final project. The curriculum is built around a core of three courses: AmCiv 601-602 (The Idea of the Nation, 6 credits); AmCiv 603-604 (American Concepts of Citizenship and the Individual, 6 credits); and AmCiv 605 (Citizenship, Democracy, and Future Change, 3 credits). Elective courses may be drawn from a large number of graduate and advanced undergraduate offerings in history, literature, art, government, and the social sciences.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The American Civilization Committee will recommend admission to the program for those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will include:

1. a distinguished undergraduate transcript with generally at least an average of B or 3.0 in appropriate courses;
2. the submission of Graduate Record Examination aptitude scores (verbal and mathematical), which is highly recommended though not required.

AmCiv 601
The Idea of the Nation I
Staff
A study of the development of American nationalism from 1775 to 1865 which focuses on the evolution of the concept of "The Union." Participants study the basic public documents and the works in contemporary culture expressive of this development.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

AmCiv 602
The Idea of the Nation II
Staff
A study of the emergence of the modern American nation-state from 1865 to the present. The course will focus on the influence of a national political economy and of periodic war in the development of the modern American nation. Participants study the basic public documents and the works in contemporary culture expressive of this development.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

AmCiv 603
American Concepts of Citizenship and the Individual I
Mr Bartlett
How did the "participant civic culture" that we associate with American democracy develop? The course concentrates on the individual's role in politics and society and traces the development of citizenship and national character (what it means to be an American) from the colonial period to 1860. Topics to be discussed include Puritan communalism, the relationship between American freedom and American slavery, contrasting assumptions regarding the individual in the Declaration of Independence and the Constitution, and the tension between morality and citizenship.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

Bilingual/ESL Studies

BES 640
Methods and Materials in Bilingual Education
Staff
Examination of major contemporary theories of learning in bilingual education. Focus on instructional improvement strategies, objectives and procedures of evaluation, as they relate to the developmental needs of elementary and secondary bilingual students. Prospective teachers acquire an understanding of the process of selection, adaptation, and development of instructional materials.
3 Lect Hrs, 3 Credits

BES 641
Foundations of Bilingual/ Multilingual Education
Staff
The rationale for bilingual education and its typology, with a survey of some successful Massachusetts programs. Special consideration given to the provisions of Title VII and the Massachusetts Transitional Bilingual Education Law.
3 Lect Hrs, 3 Credits

BES 642
Curriculum Development in Bilingual Education
Staff
Analysis of the major components of curriculum study including practices, innovations, positions and theories as applied to bilingual schools.
3 Lect Hrs, 3 Credits

BES 643
The Bilingual Child with Special Needs
Staff
Students in this course will become familiar with the various types of testing needed for bilingual special needs children. The course will survey existing tests in intelligence, academic achievement, and language development, as well as post-test remediation and therapy.
3 Lect Hrs, 3 Credits

BES 644
Capeverdean Linguistics
Mr Macedo
A systematic analysis of the phonology, morphology, and syntax of Capeverdean. A diachronic analysis focusing on the historical, cultural and socio-political factors which played a significant role in the pidginization and creolization of the Capeverdean language.
3 Lect Hrs, 3 Credits

BES 645
Franco-American Linguistics
Staff
A thorough study of differences and similarities in the linguistic structures of Franco-American and universal French, regional and social variations in the linguistic structure of Franco-American speech, and discrimination between levels of language acceptability in Franco-American speech.
3 Lect Hrs, 3 Credits

BES 646
Haitian Linguistics
Staff
A contrastive analysis of the Haitian language and English. A study of Haitian phonology, syntax, semantics and morphology, contrasted with French and English features, in the light of recent linguistic developments. Consideration will also be given to problems in bilingualism/biliteracy in the school curriculum.
3 Lect Hrs, 3 Credits

BES 647
Portuguese Linguistics
Staff
Linguistic analysis of the phonology, morphology, and syntax of Portuguese, and a systematic comparison of its structures with those of English.
3 Lect Hrs, 3 Credits

BES 648
Capeverdean Culture
Mr Macedo
A study of the social, political, religious, and ethnic aspects of Capeverdean culture. Myths, legends, folktales, poetry and riddles are analyzed, along with culture shock caused by the conflict of cultures.
3 Lect Hrs, 3 Credits

BES 649
Franco-American Culture
Staff
The study of Franco-American culture in New England and Louisiana as it relates to history, folklore, language, literature, art and music. Special emphasis on social, political, religious, economic, and historical events which have contributed to the reality of the Franco-American of today.
3 Lect Hrs, 3 Credits

BES 650
Haitian Culture
Staff
An examination of several aspects of Haitian culture: historical, economic, social, political, religious, and ethnic. Documentation of cultural stigmas and attitudes toward various oral and written traditions in contact with North American culture.
3 Lect Hrs, 3 Credits

BES 651
Portuguese Culture
Staff
An exploration of Portuguese culture, with consideration of social, economic, religious, and ethnic factors. Various cultural traditions such as myths, legends, folktales, poetry and riddles are analyzed, along with culture shock caused by the conflict of cultures.
3 Lect Hrs, 3 Credits

BES 652
Southeast Asian Cultures
Ms Smith-Hefner
This course introduces students to the peoples and cultures of Asia in the context of their shared history and parallel contemporary development. It focuses on themes that resonate throughout the area: the early influences of China and India, traditional socio-political and religious organization, European colonization, economic development, and modernization. Discussion and assignments are designed to address these issues as they are relevant to teachers and others who work with Southeast Asians.
3 Lect Hrs, 3 Credits

BES 653
Asian Linguistics
Staff
This course acquaints students with the languages of Asia, including Chinese, their geographical distribution, historical relationships, and common structural characteristics. It seeks to provide students with the conceptual tools to understand and articulate the similarities and differences between Asian languages and English, and thus to better appreciate the difficulties faced by Asians learning English. Speaking ability in an Asian language, though helpful, is not required.
Prerequisite: One course in linguistics, or permission of instructor.
3 Lect Hrs, 3 Credits

BES 660
ESL Methodology I
Ms Meskill, Ms Ulichny, Ms Zamel
This course is designed to present students with a theoretical background in the principles and methods of teaching English as a second language. Consideration of the nature of second language acquisition and the psychological and linguistic influences on ESL teaching. The course includes a survey of major methodological approaches to ESL teaching, and an evaluation of the relation of theory to practice.
3 Lect Hrs, 3 Credits

BES 661
ESL Methodology II
Ms Meskill, Ms Ulichny, Ms Zamel
This course familiarizes students with both the general schools that have formed the basis of teaching ESL, such as audio-lingualism, cognitive code and notional functionalism, and the more specific methodological models that represent extensions and adaptations of these different perspectives. Approaches to the teaching of English language skills and techniques that transcend skill areas are evaluated.
3 Lect Hrs, 3 Credits

BES 662
ESL Materials Development
Ms Meskill
Principles of adult education. Major methodological trends in curriculum and syllabus design. Overview of materials. Analysis of student texts.
3 Lect Hrs, 3 Credits

Bilingual/ESL Studies

BES 663
The Structure of the English Language
Staff
This course covers ways of describing the structure of English, from traditional methods used in many textbooks to alternative methods. Discussion of teaching methodologies and sociolinguistic considerations, and practice in applying these theories and techniques.
3 Lect Hrs, 3 Credits

BES 664
Phonetics and Phonemics
Ms Smith-Hefner
This course covers the sound system of English, principles of phonetics and phonemics and an introduction to phonology. Students practice using this knowledge to do error analysis and to teach aural/oral skills.
3 Lect Hrs, 3 Credits

BES 665
Writing Theories in ESL
Staff
This course considers research and theory in writing and addresses the particular constraints of writing in a second language. Participants examine and evaluate classroom instruction in light of research and theory. Emphasis is also placed on formulating and exploring some implications of research and theory for second language and bilingual classrooms.
Prerequisite: One course in linguistics, or permission of instructor.
3 Lect Hrs, 3 Credits

BES 670
Testing in the Bilingual/ESL Classroom
Staff
Students will become familiar with language proficiency and language maintenance testing, and with other measurement and evaluative procedures needed in the administration and instruction of limited English proficiency students in ESL and bilingual programs.
3 Lect Hrs, 3 Credits

BES 671
The Teaching of Reading in the Bilingual/ESL Classroom
Ms Auerbach
Analysis of current teaching theories about ESL and bilingual reading practices. Specific reading methodologies, materials and teaching strategies are examined.
3 Lect Hrs, 3 Credits

BES 680
The Computer in the Bilingual/ESL Classroom
Mr Ferro
This course covers various applications of personal computers in the bilingual/ESL classroom. Students develop a conversational statistical package for analyzing problems of the limited English proficient student.
3 Lect Hrs, 2 Lab Hrs, 3 Credits

BES 681
Computer Assessment in the Bilingual/ESL Classroom
Mr Ferro
This course equips students with the computer skills necessary for constructing instruments to evaluate bilingual/ESL student competencies, for designing measures for placement, and for constructing exit tests in both the native language and English.
3 Lect Hrs, 2 Lab Hrs, 3 Credits

BES 682
Bilingual/ESL Computer-Assisted Instruction
Mr Ferro
This course trains students to develop programs for the computer-assisted instruction of bilingual/ESL students, both in the native language and in English as a second language. The course offers analysis of the learning difficulties of bilingual/ESL students and considers appropriate computer instruction activities for aiding these students.
Prerequisite: BES 680.
3 Lect Hrs, 2 Lab Hrs, 3 Credits

BES 683
Bilingual/ESL Computer Curriculum Development
Mr Ferro
Participants study the role of the computer in developing bilingual curriculum and evaluating materials used in bilingual programs. Using a microcomputer, they develop and program appropriate teaching strategies, at the elementary or secondary level, for their bilingual or ESL curricula.
Prerequisite: BES 680.
3 Lect Hrs, 2 Lab Hrs, 3 Credits

BES 684
Bilingual/ESL Computer Research Methods
Mr Ferro
This course examines the role of microcomputers in quantitative educational research. Topics include conceptualization of research problems, development of hypotheses, definition and measurement of the important variables, design of research strategies, analysis of data, interpretation and inference, and writing and implementing a research proposal in bilingual/ESL education.
Prerequisites: BES 680 and BES 681.
3 Lect Hrs, 2 Lab Hrs, 3 Credits

BES 691
Seminar
Staff
Experimental seminars on special topics.
3 Lect Hrs, 3 Credits

BES 696
Independent Study
Staff
Study of one of the following areas under the supervision of a faculty member: applied linguistics, psycholinguistics, sociolinguistics, second language and bilingual methodology, cross-cultural studies.
Hrs by arrangement, 3-6 Credits

BES 697
Special Topics in Bilingual Education
Staff
An advanced course offering intensive study of selected topics in bilingual/ESL studies. Course content varies according to the topic, and will be announced prior to registration.
3-6 Lect Hrs, 3-6 Credits

BES 698
Practicum
A supervised on-site field experience in the teaching of bilingual education or ESL on an elementary or secondary level, or in a social or educational agency serving limited English proficient students.
Hrs by arrangement, 3-15 Credits

Biology
Biology Track
Applied Marine Ecology Track

Faculty

Steven Ackerman, PhD, *University of Pennsylvania*, Molecular Biology

Kamaljit Bawa, PhD, *Punjab University*, Plant Ecology and Genetics

Ruth Bennett, PhD, *Tufts University*, Neurophysiology

Kenneth Campbell, PhD, *University of Michigan*, Cell Physiology, Endocrinology

Elizabeth Davis, PhD, *Brandeis University*, Developmental Biology, Tissue Culture

John Ebersole, PhD, *University of California, Los Angeles*, Marine Ecology

John Freeberg, PhD, *Harvard University*, Plant Morphogenesis

Robert Gulmond, PhD, *University of Rhode Island*, Physiology

William Hagar, PhD, *Temple University*, Photosynthesis

Bettina Harrison, PhD, *Boston University*, Immunology and Ultrastructure

Jeremy Hatch, PhD, *Duke University*, Animal Behavior and Ecology

Ronald Iorio, PhD, *Boston College*, Animal Virology

Lawrence Kaplan, PhD, *University of Chicago*, Archaeological Botany

Christine Armett Kibel, PhD, *University of London, University College*, Neurophysiology

Kenneth Kleene, PhD, *University of Washington*, Developmental Molecular Biology

Michael Rex, PhD, *Harvard University*, Marine Ecology

Fuad Safwat, PhD, *Washington University*, Plant Morphogenesis

Edna Seaman, PhD, *University of Illinois, Urbana*, Molecular Genetics

Michael Shiaris, PhD, *University of Tennessee*, Microbiology, Ecology

Robert Stevenson, PhD, *University of Washington*, Comparative Animal Physiology

Manickam Sugumaran, PhD, *Indian Institute of Science*, Protein Chemistry, Enzymology and Insect Biochemistry

Nevin Weaver, PhD, *Texas A & M*, Biology of Insects

Richard White, PhD, *Washington University*, Vision Physiology

Garrison Wilkes PhD, *Harvard University*, Plant Genetics and Evolution

The Program

The Biology Program is designed to accommodate students of various backgrounds who wish rigorous training leading to the Master of Science degree. The program consists of two tracks: Biology and Applied Marine Ecology.

Biology

The track in biology allows the student to concentrate in one or more of these areas: cell biology, developmental biology, endocrinology, microbiology, molecular biology, neurobiology, physiology, plant sciences, and population and evolutionary biology. With the help of a faculty advisor, a cohesive course of study is designed from among the wide variety of research and study interests of the departmental faculty. The student may choose a program of study with a thesis, designed to provide competency for teaching, research, or further study. Another option is a program with a library research project, designed to meet the needs of a generalist. Under either option students may gain valuable experience through supervised participation in the teaching of undergraduate laboratory courses.

Applied Marine Ecology

The track in applied marine ecology is a flexible program that will provide professional training in the principles and methods of ecology, and managerial and program planning skills necessary for those entering business, government, and consulting firms.

Emphasis will be placed on the application of fundamental principles of ecology to the use and protection of environments and populations, particularly in the marine biosphere. Students entering the program with a background in basic evolution and ecology will move directly into a core curriculum involving course work on marine ecosystems, theories of community structure, scientific writing and sampling methods, and data analysis. They will then have the opportunity to specialize in one of three areas: ecosystems ecology, physiological ecology and marine microbiology.

Facilities

The Biology Department's modern facilities support a broad spectrum of research interests normally found in the biological sciences. For graduate courses, there are special, well-equipped research laboratories with amino acid analyzers, controlled temperature growth chambers, electron microscopes, computer facilities, electrophysiological equipment, high-speed and refrigerated centrifuges, spectrophotometers, high-pressure liquid chromatography systems, and scintillation counters. In addition, ample field equipment, boats, a greenhouse, salt water tanks and other support facilities are available for enhancing studies in marine, aquatic and terrestrial environments.

Because the campus is located on Boston Harbor, one type of marine environment is readily accessible. Arrangements can be made for the use of the marine facilities and laboratories on Nantucket Island and at Gloucester. Through the cooperation of the Waltham Field Station of the University, facilities are available for large plantings of botanical materials. The program also has informal arrangements with other institutions in the area, which provide access to additional rather specialized facilities.

Degree Requirements

Thirty credits are required for the master's degree in either Biology or Applied Marine Ecology.

Each student is assigned to a three-member advising committee which will be responsible for insuring that the degree candidate fulfills all requirements of the biology program and the Office of Graduate Studies and Research. Graduate students may select courses at the 600 level or above, subject to the permission of the instructor. Students who choose to write a thesis will have a thesis advisor and must enroll in Biol 699 (Thesis Research). All other students are required to take Biol 698 (Projects in Biology). In addition, all students must take Biol 650 and 651 (Scientific Communication I and II) as partial fulfillment of master's degree requirements.

All master's candidates must take a general oral examination which will not be limited to the thesis topic. A student writing a thesis will be required to submit a thesis outline to the thesis committee for approval at least three months prior to the master's oral examination.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Applicants to the Biology Program must submit Graduate Record Examination scores, including a score for one advanced test.

An applicant is expected to have a grade point average of 3.0 in all undergraduate science and mathematics courses. The stated interests of a prospective student must coincide to an acceptable degree with faculty specialties represented in the program. The Biology Graduate Committee is responsible for reviewing applications and for recommending candidates to the Dean of Graduate Studies and Research.

All 600-level courses with the exception of Nos. 698 and 699 are open to advanced undergraduates who meet prerequisites and have permission of the instructor.

Biology

Biol 601
Marine Ecosystems
Staff
The structure and function of coastal marine habitats including rocky intertidal areas, sandy beaches, tidal and mud flats, estuaries, salt marshes, soft bottom areas and plankton. The course will review the physical regime, flora and fauna of these environments and case histories of community organization.
Prerequisites: Undergraduate course in ecology and permission of instructor.
3 Lect-Disc Hrs, 3 Credits

Biol 602
Plant Physiology
Staff
Current developments in plant physiology, morphogenesis and biochemistry.
Prerequisite: Permission of instructor.
Hrs by arrangement, 3-5 Credits

Biol 603
Theories of Community Structure
Staff
Theoretical aspects of community development and organization including demography, competition, predation, life history strategies, trophic structure, community stability and equilibrium and non-equilibrium models of species diversity. Mathematical and graphical approaches will be emphasized.
Prerequisites: Undergraduate course in ecology and permission of instructor.
3 Lect-Disc Hrs, 3 Credits

Biol 604
Biology of Cities
Staff
Aspects of the origin and development of cities relevant to human biology, food, air, water, energy, waste, and flow of those resources into and out of cities.
Prerequisite: Introductory Biology.
3 Lect-Disc Hrs and additional field trips, 3 Credits

Biol 605
Field Sampling Methods and Data Analysis
Staff
Statistical principles of research design integrated with field techniques, to measure parameters of community structure. Field exercises will involve the application of principles learned in lectures and the use of typical sampling equipment to solve environmental questions.
Prerequisites: Biol 342, 343, or permission of instructor.
3 Lect Hrs, 6 Lab Hrs, 5 Credits

Biol 608
Biophysical Instrumentation
Staff
A lecture and laboratory course on the application of microcomputers and microprocessor-based electronics to laboratory experiments in the biological and physical sciences. Emphasis is on techniques for interfacing the microcomputer to laboratory experiments for automated data acquisition, data reduction and analysis, information display and real-time control of experiments. Also listed as Phys 608.
Prerequisites: Graduate standing or permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 3 Credits

Biol 610
Ethnobotany
Staff
Review of studies on plant use by primitive societies in historic and prehistoric times. Ordinarily offered in conjunction with Biol 613.
Prerequisite: Biol 105, 220 or equivalent (recommended) and permission of instructor.
2 Seminars or Tutorial Hrs, 2 Credits

Biol 612
Advanced Cell Biology
Staff
The analysis of gene transfer and expression at the cellular level, including the nature of metabolic systems and the factors governing their regulation.
Prerequisite: Permission of instructor.
Hrs by arrangement, 3-5 Credits

Biol 613
Topics in Archaeological Botany
Staff
Laboratory tutorial: Recovery, identification and analysis of macroscopic remains, pollen and spores from archaeological and geological deposits; interpretation of the data derived and their botanical, archaeological and paleoecological applications. Since course content varies from one semester to another, this course may be taken more than once for credit.
Prerequisite: Permission of instructor; Biol 610 or equivalent will be required (number of credit hours will be determined by prior consultation with instructor).
3 Lab-Disc Hrs Per Credit, 2-5 Credits

Biol 614
Advanced Cell Chemistry
Staff
The methodology of cell analysis, with emphasis on macromolecules and intermediary metabolites.
Prerequisite: Permission of instructor.
Hrs by arrangement, 3-5 Credits

Biol 615
Seminar in Immunology
Ms Harrison
Selected topics in immunology will be studied in depth, using the current literature. Topics will be chosen for relevance, current interest, or for their challenging, even controversial nature.
Prerequisite: Biol 315 or permission of instructor.
3 Lect Hrs, 3 Credits

Biol 618
Evolution Under Domestication
Staff
The origin, evolution and phylogenetic relationships of domesticated and semi-domesticated plants and animals; the influence of cropping and herding on natural floras and faunas of the world.
Prerequisites: Biol 241, 242 or equivalent and permission of instructor.
3 Lect Hrs and Saturday Field Trips, 3 Credits

Biol 619
Theory and Techniques of Electron Microscopy
Staff
This intensive course in scanning and transmission electron microscopy will provide practical experience in tissue preparation, darkroom procedures, microtomy, and the use of microscopes. The theory of the techniques and the basic physics of the microscopes will be presented in lectures. Each student will compile a portfolio of micrographs.
Prerequisite: Biol 371 and 373 or comparable training; or permission of instructor.
Hrs by arrangement, 4 Credits

Biol 622
Concepts and Methods in Cytology
Staff
The structural basis of cellular and subcellular functions, with practical experience in methods of visualizing cellular structure.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-5 Credits

Biol 625
Insect Biology
Staff
The physiology and biochemistry of insects, emphasizing those adaptations that have made insects the most successful group of animals. The laboratory portion of the course will stress the morphology, diversity and classification of insects.
Prerequisite: Biol 211, 240 and 371 or equivalent and permission of instructor.
3 Lect Hrs, 3 Credits

Biology

Biol 627
Bacterial Physiology and Genetics
Mr Shiaris
A rigorous biochemical examination of the bacterial cell. Lectures focus on bacterial cytology, physiology, and genetics. Areas of current research are emphasized. Students are expected to read primary literature and prepare an in-depth review paper on a special topic.
Prerequisite: Biol 334 or Biol 614.
3 Lect Hrs, 3 Credits

Biol 628
Microbial Ecology
Mr Shiaris
The functions, roles, and ecology of microorganisms in the environment emphasizing biogeochemical cycling of elements. Special topics of concentration will be chosen from the following: microbial diversity, evolution, interactions, aquatic or soil microbiology, and sewage microbiology. Course will concentrate on interrelating molecular and biochemical mechanisms with ecological principles. Readings will be assigned from classical and current scientific literature for class discussion. An in-depth review paper on a special topic will be required.
Prerequisites: Biol 334 or 342, and 372 and permission of instructor.
3 Lect Hrs, 3 Credits

Biol 630
Natural History of Marine Invertebrates
Staff
Examination of convergent and divergent ecological, behavioral and morphological adaptations of marine organisms in different habitats. The course will draw heavily on the resources of Boston Harbor. The first half of the semester consists of lectures and demonstration laboratories; the second half includes weekly field trips. The first half of the course will be indoor lectures—three each week—and demonstration laboratories—one hour a week. The second half will have one or two lectures per week and one four-hour field trip a week.
Prerequisite: Biol 211, or 234, 341, 342 or equivalent and/or permission of instructor.
3 Credits

Biol 632
Advanced Evolution
Staff
An inquiry into the modern synthetic theory of evolution with emphasis on population genetics, ecological genetics, evolution of dominance, genetic homeostasis, canalization and genetic theory of polymorphism.
Prerequisite: Permission of instructor.
Hrs by arrangement, 3 Credits

Biol 638
Advanced Ecology
Staff
Concentration on important concepts of population and community ecology. Topics covered may include population dynamics, life history strategies, theory of r- and K-selection, competition, predation, community organization, and species diversity. Particular emphasis is placed on the relationship between theoretical and empirical ecology. A weekly tutorial will provide opportunity for greater discussion of material covered in lecture. Emphasis changes from year to year.
Prerequisite: Biol 341, 342 or equivalent or permission of instructor.
2 Lect Hrs, 1 Disc Hr, 3 Credits

Biol 640
Principles of Qualitative Modelling in Biology
Staff
A mathematical analysis of biological systems, with emphasis on qualitative rather than quantitative approaches. Signed digraphs (Loop Analysis), matrices, and computer programming will be used. In addition, notions of feedback, stability and other global properties of systems will be presented. During the work section, students will be grouped to solve problems. At the completion of the course students will be competent to distinguish the various methods, assess their strengths and limitations, and apply them to biological systems of interest.
3 Lect-Disc Hrs, 3 Credits

Biol 642
Biogeography
Mr Rex
A study of geographical distribution patterns in plants and animals, including historical and descriptive aspects of the distributions of organisms, experimental and comparative tests of island biogeography theory, the population genetics and evolutionary strategies of colonizing species. Independent research by students will be presented to the class in seminar form.
Prerequisite: Biol 341, 342 or equivalent. Some knowledge of statistics and calculus highly recommended.
Hrs by arrangement, 3 Credits

Biol 643
Behavior and Ecology of Seabirds
Staff
Adaptations of seabirds to the marine environment with particular reference to breeding biology and feeding strategies; other topics of current interest in behavioral ecology. Lectures or lecture and field work.
Prerequisite: Permission of instructor.
Hrs by arrangement, 2-5 Credits

Biol 645
Ecological and Evolutionary Aspects of Plant-Animal Interactions
Mr Bawa
Ecological and evolutionary aspects of plant-animal interactions. Coevolution of plants and animals will be examined in an ecological context. Interactions to be examined include pollination, seed predation, herbivory and grazing. The role of these interactions in the regulation of community structure will be discussed. Although emphasis will be on tropical communities, alpine, temperate, and desert communities will also be covered.
Prerequisite: Biol 341 or equivalent or permission of instructor.
3 Lect Hrs, 3 Credits

Biol 646
Pollutants in Marine Food Chains
Staff
Examination in depth of the entry of selected pollutants into the oceans, their movements, distribution and effects within marine organisms. Where possible, case studies from New England will be used.
Prerequisite: Organic Chemistry, Physiology, Ecology, and permission of instructor.
Hrs by arrangement, 2 Credits

Biol 650-651
Scientific Communication I & II
Staff
Required of all graduate students; usually taken in the second year. One credit is awarded for 650 and two for 651. Students should take both courses either in the same term (they are frequently offered concurrently) or in the same academic year. The two courses cover the storage and retrieval of scientific information (including searching of computerized databases), the design of tables, figures, and other graphics, the writing of technical reports and papers, and the preparation of posters and publications. Writing, oral presentations and other assignments, and attendance at the weekly departmental seminar, are required.
3 Credits (for both courses)

Biol 660
Seminar in Developmental Biology
Staff
Current problems in developmental biology; molecular and cellular differentiation, and pattern determination.
Prerequisite: Biol 211 and permission of instructor.
3 Sem-Disc Hrs, 3 Credits

Biology

Biol 662
Photobiology
Staff
The photochemical reactions that occur in biological systems. Major topic areas are: properties of light energy, utilization of light energy by photosynthetic organisms, mechanism of visual transduction, photochemical triggering mechanism for developmental processes.
Prerequisite: Permission of instructor.
3 Lect Hrs, 3 Credits

Biol 666
Seminar in Neurobiology
Staff
A consideration of the structure, function and development of sensory receptors, neurons and muscles.
Prerequisites: Biol 211 or equivalent and/or . permission of instructor.
3 Lect Hrs, 3 Credits

Biol 668
Cellular and Molecular Endocrinology
Mr Campbell
A laboratory and seminar course on selected aspects of endocrinology, emphasizing laboratory investigations of such topics of current interest in endocrinology as molecular control of the synthesis of hormones, complete elucidations of the mechanisms of hormone action, and methods of modulating fertility and development.
Prerequisites: Chem 253, Biol 317 or Biol 371, and permission of instructor.
2 Lect-Seminar Hrs, 6 Lab Hrs, 3 Credits

Biol 670
Tissue and Organ Culture
Staff
Methods of plant and animal tissue and organ culture will be presented, with special emphasis on problems of differentiation and morphogenesis *in vitro*, and certain techniques now used in plant protoplast culture and for hybridization of somatic cells in plants and animals will be introduced. Students will use these methods and techniques during the course in independent projects.
Prerequisite: Permission of instructor.
1 Lect Hr, 6 Lab Hrs, 3-4 Credits

Biol 672-673
Directed Readings in Biology
Staff
Selected readings in advanced areas of biology with guidance and regular discussion.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-3 Credits

Biol 675
Molecular Genetics
Staff
A lecture and laboratory course covering the structure and biosynthesis of RNA, DNA, and protein in procaryotic and eucaryotic organisms. It examines the importance of gene regulation in oncogenesis, viral genetics, genetic disorders, immunology, and development.
Prerequisites: Senior or graduate status; permission of instructor.
3 Lect Hrs, 7 Lab Hrs, 4 Credits

Biol 676
Molecular Genetics (Lecture)
Staff
A lecture only course covering the structure and biosynthesis of RNA, DNA, and protein in procaryotic and eucaryotic organisms. The course examines the importance of gene regulation in oncogenesis, viral genetics, genetic disorders, immunology, and development.
Prerequisites: Senior or graduate status, and permission of instructor.
3 Lect Hrs, 3 Credits

Biol 678
Protein Chemistry and Enzymology
Staff
A lecture and laboratory course on various aspects of protein chemistry and enzymology. Emphasis is on purification, characterization, structure, function, mechanism of action, kinetics, and regulatory aspects of enzymes. Topics also include the practical and theoretical aspects of affinity chromatography and other separation techniques, immobilization of enzymes and other biomolecules, enzyme kinetics, and the analytical and industrial use of soluble and insoluble enzymes.
Prerequisites: Biol 371 and 372 (Cell Biology and Biochemistry I and II), and permission of instructor.
3 Lect Hrs, 1 Lab Hr, 4 Credits

Biol 679
Protein Chemistry and Enzymology (Lecture)
Staff
A lecture only course on various aspects of protein chemistry and enzymology. Emphasis is on purification, characterization, structure, function, mechanism of action, kinetics, and regulatory aspects of enzymes. Topics also include the practical and theoretical aspects of affinity chromatography and other separation techniques, immobilization of enzymes and other biomolecules, enzyme kinetics, and the analytical and industrial use of soluble and insoluble enzymes.
Prerequisites: Biol 371 and 372 (Cell Biology and Biochemistry I and II), and permission of instructor.
3 Lect Hrs, 3 Credits

Biol 680
Methods in Comparative Biochemistry
Staff
Analysis of tissues and subcellular particulates from microorganisms, plants, invertebrate and vertebrate animals to reveal physiological differences and evolutionary trends as expressed by chemical differences. The use of chromatography, spectrophotometry, tracer methodology and chemical derivation for the analysis of tissues and organelles isolated by dissection and differential centrifugation. Techniques for cell disruption and sampling will be presented along with instruction in the operation of equipment for the separation, purification and identification of tissue constituents.
Prerequisite: Permission of instructor.
6 Lab Hrs, 2 Credits, 9 Lab Hrs, 3 Credits

Biol 685
Biomedical Tracers
Mr Campbell
A seminar and laboratory course describing the types and uses of physical tracers in the biomedical sciences. Covers theory and application of various tracers (immunoglobins, radioisotopes, lectins, enzymes, chromogen labels, spin labels, heavy isotopes and particles), instrumentation for their detection, and general methods. The laboratory will include demonstrations and short projects chosen by the students and the instructor.
Prerequisites: Chem 253, Biol 371 (or Biol 317 or 315), and permission of instructor.
2 Lect-Seminar Hrs, 6 Lab Hrs, 3 Credits

Biol 691
Advanced Ethology
Staff
Examination in depth of topics in the biological study of behavior-ethology with particular reference to communication and the evolution of social behavior. There will be lecture-discussions, lab exercises, and field trips.
Prerequisite: Biol 211 and 341, or Psych 265, or equivalent, and permission of instructor.
Hrs by arrangement, 2-6 Credits

Biology

Biol 692
Advanced Physiology
Staff
In-depth experimental studies of two or three selected areas of organismal and cellular physiology, focusing on sensory and nervous systems and membrane transport. Provisions will be made for independent projects during the course. One weekly seminar plus one weekly lab meeting. Usually offered in the spring.
Prerequisite: Biol 316, 372 or equivalent, Organic Chemistry, Physics, and permission of instructor.
1 Sem Hr; 3-4 Lab Hrs, 3-4 Credits

Biol 697
Special Topics in Biology
Staff
A field of biology of current interest is examined in detail.
Prerequisite: Permission of instructor.
Hrs by arrangement, 2-5 Credits

Biol 698
Projects In Biology
Staff
A substantial written report based on library research or an original project such as curriculum design, design of teaching aids and exercises or critique of a book or theory. No more than 6 credits of this course may be applied to the master's degree. The credit may be applied over more than one semester. Biol 698 and Biol 699 are mutually exclusive.
Hrs by arrangement, 6 Credits

Biol 699
Thesis Research
Staff
Substantial laboratory or field research resulting in a master's thesis. This course may not substitute for Biol 698 (these two courses are mutually exclusive). No more than 10 credits of this course may be applied to the master's degree. The credit may be applied over more than one semester.
Hrs by arrangement, 10 Credits

Biol 720
Cell Ultrastructure
Ms Harrison, Ms Kibel, Mr White
Concepts of cell ultrastructure and methods of electron microscopy.
Prerequisite: Graduate standing and permission of instructor.
Hrs by arrangement, 3-5 Credits

Biotechnology and Biomedical Science

Faculty

Steven Ackerman, PhD, *University of Pennsylvania*, Molecular Biology (Biology Department)

Marvin M Antonoff, PhD, *Cornell University*, Interfacing of Computers with Living Systems (Physics Department)

Kamaljit Bawa, PhD, *Punjab University*, Plant Ecology and Genetics (Biology Department)

Ernest Becker, PhD, *Western Reserve University*, Organometallic Compounds; Medicinal Chemistry (Chemistry Department)

Ruth Bennett, PhD, *Tufts University*, Neurophysiology (Biology Department)

Kenneth Campbell, PhD, *University of Michigan*, Cell Physiology, Endocrinology (Biology Department)

Leonard Catz, PhD, *Hebrew University of Jerusalem*, Experimental Atomic and Nuclear Spectroscopy (Physics Department)

Elizabeth Davis, PhD, *Brandeis University*, Developmental Biology, Tissue Culture (Biology Department)

William Hagar, PhD, *Temple University*, Photosynthesis (Biology Department)

Bettina Harrison, PhD, *Boston University*, Immunology and Ultrastructure (Biology Department)

Ronald Iorio, PhD, *Boston College*, animal virology

Christine Armett Kibel, PhD, *University of London, University College*, Neurophysiology (Biology Department)

Kenneth Kleene, PhD, *University of Washington*, Developmental Molecular Biology (Biology Department)

Daniel A Laufer, PhD, *Brandeis University*, Synthesis and Properties of Biomolecules, Polymeric Reagents (Chemistry Department)

Thomas N Marguils, PhD, *University of California, Berkeley*, X-Ray Crystallography of Drugs and Natural Products (Chemistry Department)

Henry A Mariani, PhD, *Boston College*, Polyaromatics; Synthesis and Use of Fluorinated Compounds in Carcinogenesis (Chemistry Department)

Martin Posner, PhD, *Princeton University*, Biophysics, Cell Physiologic and Molecular Studies (Physics Department)

Fuad Safwat, PhD, *Washington University*, Plant Morphogenesis (Biology Department)

Edna Seaman, PhD, *University of Illinois, Urbana*, Molecular Genetics (Biology Department)

Michael Shlaris, PhD, *University of Tennessee*, Microbiology, Ecology (Biology Department)

Robert Stevenson, PhD, *University of Washington*, comparative animal physiology

Manickam Sugumaran, PhD, *Indian Institute of Science*, Protein Chemistry, Enzymology and Insect Biochemistry (Biology Department)

Richard White, PhD, *Washington University*, Vision Physiology (Biology Department)

Garrison Wilkes, PhD, *Harvard University*, Plant Genetics and Evolution (Biology Department)

Hans van Willigen, PhD, *University of Amsterdam*, Application of Spin Resonance in the Study of Structure and Dynamics (Chemistry Department)

The Program

This MS program trains students in the theory and laboratory techniques used in biotechnology and biomedical science—two high technology areas of expanding national and local importance. The program provides a firm foundation in the principles underlying modern biotechnology techniques, and integrates this theoretical understanding with intensive training in a variety of laboratory skills and in computer applications to biotechnology.

The curriculum of the program consists of required courses in biology and biophysics, a required two-semester research experimentation course, and elective courses in biology, chemistry, environmental sciences, and physics. Work in these courses will be particularly appropriate for students with interests in the emerging fields of biotechnology, molecular genetics, tissue culture, and advanced computerized laboratory technology.

The program has formed cooperative arrangements with various private and public sector laboratories, in which some students will do supervised research as interns. Interchange between these laboratories and the University will insure that all students receive training that is congruent with the needs of the private and public sectors.

Facilities

The modern facilities of the University's Biology Department support current research techniques in biotechnology and biomedical science. Graduate students can work in special, well-equipped research laboratories with amino acid analyzers, computer facilities, controlled environment chambers, electron microscopes, electrophysiological equipment, high-speed and refrigerated centrifuges, spectrophotometers, high-pressure liquid chromatography systems, and scintillation counters. Excellent tissue culture facilities are available for graduate student research.

Degree Requirements

Thirty credits are required for the master of science degree in biotechnology and biomedical science.

Each degree candidate is assigned to a three-member advising committee, which will be responsible for insuring that the student fulfills all requirements of the program and the Office of Graduate Studies and Research.

All students must complete the following courses:

Biol/Phys 608 (Biophysical Instrumentation)
Biol 650-651 (Scientific Communication I and II)
Biol 670 (Tissue and Organ Culture)
Biol 675 (Molecular Genetics)
Biol 696 (Research Experimentation) Note: Two semesters of Biol 696 must be taken.

Students must also complete three elective courses chosen from the following list. At least two of the courses must be biology courses.

Biol 612 (Advanced Cell Biology)
Biol 614 (Advanced Cell Chemistry)
Biol 615 (Immunology)
Biol 619 (Theory and Technique of Electron Microscopy)
Biol 622 (Concepts and Methods in Cytology)*
Biol 627 (Bacterial Physiology and Genetics)
Biol 668 (Cellular and Molecular Endocrinology)
Biol 678 (Protein Chemistry and Enzymology)
Biol 679 (Protein Chemistry and Enzymology Lecture Course)
Biol 685 (Biomedical Tracers)
Biol 692 (Advanced Physiology)
Biol 699 (Thesis Research)**
Chem 653 (Introduction to Polymer Chemistry)
Chem 658 (Medicinal Chemistry)
EnvSci 611 (Applied Biostatistics)
Phys 603 (Nuclear Radiation Physics and Biophysics Laboratory)
Phys 604 (Cryogenics and Vacuum Technology)
Phys 609 (Physics of Medical Imaging)
Phys 610 (Topics in Medical Imaging)

*Open as an elective only to those students whose thesis projects *require* the use of electron microscopy.

** Open as an elective only to those students choosing the thesis option. May be taken for a maximum of 4 credits.

Biotechnology and Biomedical Science

Students wishing to substitute any other courses for those on this list of electives must have *prior* approval from their advising committee, the Biotechnology and Biomedical Science program advisor, and the graduate program director.

Each student must prepare a written report on his or her research work and must also take an oral examination, which will not necessarily be limited to the topic of the report. The student must submit an outline of the report to his or her advising committee at least three months before taking the oral examination.

Students may choose either an internship option or a thesis option, which will enable them to pursue a thesis research project in the laboratory of a faculty member. Thesis students have the option of taking 4 additional research credits, as Biol 699. This will allow for a maximum of 10 credits toward research.

Note: These degree requirements are subject to change as developments in the field affect the program's curriculum. Please contact the Biology Department for the most current information.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Each applicant to the Program in Biotechnology and Biomedical Science must submit Graduate Record Examination scores, including a score for one advanced test. An applicant is expected to have a grade average of 3.0 in all undergraduate science and mathematics courses.

It is expected that entering students will have completed (or will complete) the following courses or their equivalents:

Biol E252 (Genetics)
Chem 253 and 254 (Organic Chemistry)
Biol 334 (Microbiology)
Biol 371 and 372 (Cell Biology and Biochemistry)
Biol 373 and 374 (Methods in Cell Biology and Biochemistry)
Math C137 (Introduction to Computing)
Physics D107 and D108 (Introductory Physics)
Physics 181 and 182 (Introductory Physics Laboratory)

The stated interests of a prospective student must coincide to an acceptable degree with faculty specialties represented in the program. The Biology Graduate Committee, in conjunction with the director of the program, is responsible for reviewing applications and for recommending candidates to the dean of Graduate Studies and Research.

Course Descriptions

Descriptions of courses required of all students appear below. Descriptions of elective courses may be found in the Biology, Chemistry, Environmental Sciences, and Applied Physics sections of this publication.

Biol 608
Biophysical Instrumentation
Staff
A lecture and laboratory course on the application of microcomputers and microprocessor-based electronics to laboratory experiments in the biological and physical sciences. Emphasis is on techniques for interfacing the microcomputer to laboratory experiments for automated data acquisition, data reduction and analysis, information display and real-time control of experiments. Also listed as Phys 608.
Prerequisites: Graduate standing or permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 3 Credits

Biol 650-651
Scientific Communication I & II
Staff
Required of all graduate students; usually taken in the second year. One credit is awarded for 650 and two for 651. Students should take both courses either in the same term (they are frequently offered concurrently) or in the same academic year. The two courses cover the storage and retrieval of scientific information (including searching of computerized databases), the design of tables, figures, and other graphics, the writing of technical reports and papers, and the preparation of posters and publications. Writing, oral presentations and other assignments, and attendance at the weekly departmental seminar, are required.
3 credits (for both courses)

Biol 670
Tissue and Organ Culture
Staff
Methods of plant and animal tissue and organ culture will be presented, with special emphasis on problems of differentiation and morphogenesis *in vitro*, and certain techniques now used in plant protoplast culture and for hybridization of somatic cells in plants and animals will be introduced. Students will use these methods and techniques during the course in independent projects.
Prerequisite: Permission of instructor.
1 Lect Hr, 6 Lab Hrs, 4 Credits

Biol 675
Molecular Genetics
Staff
Through the study of bacterial and eucaryotic organisms, this course covers the structure and synthesis of both DNA and RNA, and examines the importance of their role in the genome. Topics include oncogenesis, viral genetics, and genetic disorders. The course will also cover current methods in use for recombinant DNA technology.
Prerequisites: Senior or graduate status; permission of instructor.
3 Lect Hrs, 7 Lab Hrs, 4 Credits

Biol 696
Research Experimentation in Biology
Staff
This course provides students with sustained experience in a research laboratory. Each student will pursue a specific research project, which may originate in a public or private sector laboratory or at the University. Each student's project should involve the student in ideas and laboratory skills and should permit the student to produce work of publishable quality.
Prerequisites: Admission to the Biotechnology and Biomedical Science Program; permission of instructor.
Hrs by arrangement, 3 Credits

Biol 697
Special Topics in Biology
Staff
A field of biology of current interest is examined in detail.
Prerequisite: Permission of instructor.
Hrs by arrangement, 2-5 Credits

Business Administration

Faculty

Sumer C Aggarwal, PhD, *Moscow Institute of Production,* Post-Doctorate, *Harvard University,* Management Sciences

Osman A Atac, PhD, *University of North Carolina,* Marketing

Jeanne M Aurello, MBA, DBA, *George Washington University,* Organizational Behavior

Oded Berman, MS, *Tel-Aviv University,* PhD, *Massachusetts Institute of Technology,* Management Sciences, Operations Research

Gunther S Boroschek, PhD, *Harvard University,* Human Resources Management

Lal C. Chugh, PhD, *Harvard University,* Accounting/Finance

Betty J. Diener, MBA, DBA, *Harvard University,* Marketing

Marlene G. Fine, MBA, PhD, *University of Massachusetts at Amherst,* Organizational Communication

Lawrence Franko, MA, MALD, *Tufts University,* DBA, *Harvard University,* International Finance and International Management

Arthur A Goldsmith, MBA, *Boston University,* PhD, *Cornell University,* Business and Society

Ellen Greenberg, MBA, PhD, *Columbia University,* Organizational Behavior and Business Policy

Oscar Gutierrez, PhD, *London School of Economics and Political Sciences*, Information Systems

Michelle Hamer, MBA, PhD, *University of Wisconsin,* Accounting

Peter T Ittig, PhD, *Cornell University,* Management Sciences, Operations Management

Richard L Keith, MBA, DBA, *Florida State University*, Accounting and Finance

Maryellen Kelley, PhD, *Massachusetts Institute of Technology,* Personnel, Industrial Relations

Cynthia Y Ker, MBA, DBA, *University of Colorado,* Management Sciences

Stephan E Kolitz, PhD, *Northwestern University,* Management Sciences, Operations Management

Allen MacQuarrie, MBA, *Duquesne University,* PhD, *Pennsylvania State University,* Accounting, Quantitative Business Analysis

Peter J McClure, MBA, DBA, *Indiana University,* Marketing

Joseph A McHugh, MBA, *Creighton University,* PhD, *Michigan State University,* CPA, Managerial and Financial Auditing

John R Minahan, PhD, *Massachusetts Institute of Technology,* Corporate Finance, Investment Management

Allyn A Morrow, MPA, PhD, *University of Pittsburgh,* Public Management

William J Murphy, MBA, DBA, *Harvard University*, Business Policy, Law

Cathryn A Nelson, PhD, *University of Arizona,* Analysis and Communication

Michael A Novak, PhD, *University of Cincinnati,* Organizational Behavior

John C Papageorglou, PhD, *University of Manchester,* Management Sciences, Operations Management

Phillip L Quaglieri, PhD, *Stevens Institute of Technology,* Personnel, Organizational Behavior

Joseph Reed, PhD, *University of Wisconsin,* Public Management

Mary Lou Roberts, MBA, *North Texas State University,* PhD, *University of Michigan,* Marketing

Mark A Schlesinger, PhD, *University of Michigan,* Analysis and Communication

Vivien A Schmidt, PhD, *University of Chicago,* Organizational Theory

Daniel G Shimshak, MBA, *Baruch College,* PhD, *City University of New York,* Management Sciences, Operations Management

Joan C Tonn, PhD, *University of Michigan,* Organizational Behavior

Lenos Trigeorgis, MBA, *Purdue University,* DBA, *Harvard University*, Finance

Janet M Wagner, MS, PhD, *Massachusetts Institute of Technology*, Operations Research, Linear and Non-Linear Optimization

Arnold K Weinstein, PhD, *Columbia University,* Marketing

Patricia L Wilkie, PhD, *Wayne State University,* Organizational Behavior

Eugene Yang, PhD, *University of North Carolina*, Operations Research, Systems Analysis

Fatemeh Zahedi, MBA, DBA, *Indiana University,* Management Sciences, MIS

Leon Zurawicki, PhD, *Warsaw University,* International Marketing

The Program

The program leading to the MBA degree is designed to develop general competence in overall management and to meet the curricular requirements of the American Assembly of Collegiate Schools of Business (AACSB). The objectives of the program are to provide students with the following:

- An understanding of the history, structure, and philosophical foundations of the business organization and an appreciation of the relationship between business and the society in which it operates.
- Opportunities to apply research and decision-making tools and techniques in the solution of managerial problems in private and non-profit settings.
- Opportunities to integrate knowledge through analysis of complex managerial problems.

The program is suitable for persons with undergraduate degrees in a variety of fields including the liberal arts or engineering as well as business. Students with an undergraduate degree in business may be eligible for advanced standing. To enable persons who are employed during normal working hours to pursue the degree program, MBA courses are offered only in the evening, Monday through Thursday, on a one meeting per week schedule. The program, therefore, is designed primarily though not exclusively for part-time students. Depending on eligibility for advanced standing, a part-time student taking two courses a semester may complete the program within five to ten semesters.

Degree Requirements

To earn an MBA degree, a student must satisfactorily complete 57 semester credits at the graduate level and must satisfy the core and elective requirements of the program.

Core requirements. The MBA core consists of eleven courses required for all students: Mathematical Analysis for Managers, Managerial Economics, Accounting for Managers, Financial Management, Statistical Analysis for Managers, Operations Management, Computer and Information Systems, Organizational Theory and Behavior, Business and Its Environment, Marketing Management, and Business Policy. A maximum of 24 credits of the MBA core may be waived for students who have satisfactorily completed appropriate courses at the undergraduate level. (See "Advanced Standing.")

Business Administration

Elective requirements. In addition to the core courses, students must satisfactorily complete at least 24 semester credits in advanced courses that are available at the time of election. Students may wish to use some of their elective credits to specialize in a particular area of management (e.g., accounting, finance, management, marketing, operations management, or information systems). To insure that students receive a well-rounded preparation for management, no more than nine credits (three courses) may be elected within a given specialization. At least fifteen credits (five courses) must be elected from advanced courses outside the area of specialization. In addition, students must take at least one elective course devoted primarily to international management issues.

Program options. The flexibility provided by the elective requirement also permits students to construct a program of study that reflects their own career needs. For example, students interested in pursuing careers in the international arena can take elective courses leading to a specialization in international management.

Sequencing of courses. Seven of the eleven core courses must be successfully completed (or waived in the assessment of advanced standing) before students elect advanced courses. Students must successfully complete the core course in a given subject area before electing an advanced course in that area. The Business Policy course (MGT 689), part of the required core, is the "capstone" course for the program and is taken in the student's final semester of study.

Advanced Standing. The MBA core is designed to provide instruction in what business schools define as the common body of knowledge in management. Some applicants, as part of their undergraduate degree programs, have received instruction in some areas of the common body of knowledge. Such applicants may be eligible for advanced standing in the MBA program. Advanced standing is the waiver of some portion of the MBA core requirements. If a student has (1) taken sufficient undergraduate coursework in the last five years from an accredited institution in subject matter included in the core, and has (2) received a minimum of B in those courses, the student, upon admission to the program, may submit a request for waiver of credits to the MBA Graduate Program Director. Judgments concerning eligibility for advanced standing are based on analysis of transcripts, course syllabi, examination, or other relevant material. No more than 24 credits shall be waived.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The Master of Business Administration (MBA) Admissions Committee will recommend admission for applicants who show evidence of high promise of success in the MBA program of study. Such evidence must include:

1. A score on the Graduate Management Admission Test (GMAT).
2. A minimum grade point average of 3.0 in the last 60 semester hours of undergraduate courses.

The MBA Admissions Committee will consider, in addition to the above requirements, the contributions of an employment record at appropriate and increasing levels of responsibility.

Courses

In order to enroll in MBA courses, students must be matriculated in the MBA program. All MBA courses award three credits and meet once per week for three class hours. Additional laboratory or tutorial hours may be arranged.

In the listings below, a prefix identifies each course by department, according to the following code: AF (Accounting and Finance), ACM (Analysis and Communication), MGT (Management), MS (Management Sciences), MKT (Marketing). The designation MBA identifies the program's interdisciplinary offerings.

Core Courses

MS 600
Mathematical Analysis for Managers
Staff
Provides the mathematical skills and applications necessary to pursue graduate study in the College of Management. Topics include algebra and set theory, functions and graphs, linear equations, systems of linear equations, matrix algebra, non-linear functions, probability, differentiation, optimization, exponential and logarithmic functions, functions of several variables, and introductory integration.
3 Lect Hrs, 3 Credits

AF 601
Managerial Economics
Staff
Examines managerial applications of micro and macro economic theory. Topics include optimization techniques applied to consumer choice, firm behavior, pricing, and the study of market structure.
Prerequisite: MS 600.
3 Lect Hrs, 3 Credits

AF 610
Accounting for Managers
Staff
Instructs students in the fundamentals of financial and managerial accounting. The financial accounting component presents techniques used to measure business transactions, preparation of financial statements, recording and valuation of assets, owners' equity, revenue, cost and expenses. The managerial accounting component deals with techniques for management decision-making, planning, and control.
3 Lect Hrs, 3 Credits

AF 620
Financial Management
Staff
Principles of financial administration, with applications to problems of financial analysis, control, and planning by firms under changing economic conditions.
Prerequisites: AF 601 and AF 610.
3 Lect Hrs, 3 Credits

MS 630
Statistical Analysis for Managers
Staff
Acquaints students with statistical techniques used in management decision-making and develops their ability to characterize management problems that can be solved by such techniques. Topics include descriptive statistics, probability distributions, sampling, estimation, hypothesis testing, simple and multiple regression and correlation, chi square testing, analysis of variance, and decision theory. Students make use of computers and appropriate software to apply what they are learning.
Prequisite: MS 600.
3 Lect Hrs, 3 Credits

MS 635
Operations Management
Staff
Familiarizes students with the analysis, planning, and control of operations and operating resources in any type of organization. Analytical techniques used in the solution of system design and operations planning, and control problems will also be discussed. Students make use of computers and appropriate software to apply what they are learning.
Prerequisite: MS 630.
3 Lect Hrs, 3 Credits

MS 640
Computer and Information Systems
Staff
Introduces students to the concepts of information systems, managerial issues concerning information systems, and the role and components of the computer in information systems. A programming language will be presented for purposes of illustrating computer programming methods and their applications in business.
3 Lect Hrs, 3 Credits

Business Administration

MGT 650
Organizational Theory and Behavior
Staff
Drawing on classical and contemporary theory and research, this course examines the organization at the macro level (organizational theory) and the micro level (organizational behavior). Relevant topics at the macro level include organizational structure and complexity as well as issues of effectiveness. Relevant topics at the micro level include motivation, power, leadership, communication, conflict, and decision-making.
3 Lect Hrs, 3 Credits

MGT 660
Business and its Environment
Staff
Examination of the relationship of business to the external environment. The course looks at business in relation to legal, social, political, ethical, and economic systems and in relation to technological developments. The course also addresses the functioning of American industrial enterprise in the context of the international business environment, and explores how business organizations can operate effectively and responsibly in the context of the external environment.
3 Lect Hrs, 3 Credits

MKT 670
Marketing Management
Staff
Focus on strategic decisions necessary to match organizational resources with market opportunities. Students will learn to analyze market opportunities, to develop marketing plans and marketing mix strategies, and to manage implementation and control of the marketing plan.
Prerequisite: AF 610.
3 Lect Hrs, 3 Credits

MGT 689
Business Policy
Staff
Using knowledge acquired through study of the MBA Core, students will examine diverse situations typically confronted by general management and will learn strategic management techniques for managing these situations. The strategies will be based on an analysis of the internal conditions of the firm and the constraints and opportunities afforded by the external environment. Students will learn to develop strategy implementation plans that describe in detail appropriate executive action.
Prerequisites: Satisfactory completion of at least seven of the ten core courses and four advanced courses.
3 Lect Hrs, 3 Credits

Advanced Courses

MBA 671
Research Methods in Management
Staff
Examines the process of business research. Topics include problem definition, sources of information, data collection methods, data analysis, and report writing. The course includes lectures and presentations of actual research done by students on topics of their own choice.
3 Lect Hrs, 3 Credits

AF 611
Intermediate Accounting
Staff
This course acquaints students with financial accounting theory. Particular emphasis is placed on the relationship of theory to practical problems such as the limitations of traditional financial statements and asset and current liability items. Students will acquire an understanding of issues unique to corporations and complete the study of the balance sheet by examining long-term debt and equity items.
Prerequisite: AF 610.
3 Lect Hrs, 3 Credits

AF 612
Cost Accounting
Staff
Examines the use of cost accounting as a means of providing quantitative information for managerial decision-making and control. Emphasizes analysis of cost behavior, cost-volume-profit relationships, budgeting, and performance measurement.
Prerequisite: AF 610.
3 Lect Hrs, 3 Credits

AF 613
Federal Tax Planning
Staff
Introduces the concepts of gross income recognition, deductions, tax credits, and the income tax effects of property transactions, with emphasis on managerial decision-making and planning. These concepts are incorporated into discussion of alternative forms of business organization and the tax implications of each.
Prerequisite: AF 610.
3 Lect Hrs, 3 Credits

AF 614
Financial and Managerial Auditing
Staff
Covers all branches of auditing, focusing on the theory of internal control; approaches auditing as a highly specialized area that involves the gathering and analysis of reliable evidence in order to formulate a judgment. This course begins the process of preparing the student to become a certified public accountant or a certified internal auditor.
Prerequisite: AF 611.
3 Lect Hrs, 3 Credits

AF 621
Advanced Corporate Finance
Staff
Provides an in-depth examination of corporate finance. A natural extension of the core financial management course (AF 620), it offers deeper, broader, or different analyses of similar issues (e.g., an options approach to capital budgeting), and introduces such new topics as convertible securities, leasing, mergers and acquisitions, and international financial management.
Prerequisite: AF 620.
3 Lect Hrs, 3 Credits

AF 625
Public Financial Management
Staff
Examines the financial management functions performed in a non-business setting, i.e. government agencies and not-for-profit activities. Focuses on the financing, budgeting, accounting, reporting, and auditing of such entities. With particular attention to the theory and techniques of the functions listed above, the course will explore current issues.
Prerequisites: AF 610 and AF 620.
3 Lect Hrs, 3 Credits

AF 626
International Financial Management
Staff
Describes the body of knowledge, attitudes, and skills required of financial decision-makers operating in a global setting. The phenomenal rise in importance of multinational business finance and concomitant issues is explored in light of recent theoretical and empirical research. Specific topics include foreign exchange risk management, financing decisions in the long and short run, currency translation, accounting, and taxation.
Prerequisites: AF 610 and AF 620.
3 Lect Hrs, 3 Credits

AF 627
Health System Financial Management
Staff
Addresses the financial management theory, techniques, and issues applicable to public and private health organizations. Specific topics include budgeting, capital formation, cost finding, reimbursement alternatives, financial analysis, and performance evaluation. Evaluates contemporary policy issues affecting the health care administrator.
Prerequisites: AF 610 and AF 620.
3 Lect Hrs, 3 Credits

Business Administration

AF 628
Portfolio Analysis and Investment Management
Staff
Examines modern portfolio theory in detail. The Capital Asset Pricing Model, the Arbitrage Pricing Model, and the Options Pricing Model are developed in a theoretical framework. Students apply these concepts in a portfolio management context. The course also looks at recent trends in asset markets and at the investment implications of deregulation in the financial intermediary sector.
Prerequisite: AF 620.
3 Lect Hrs, 3 Credits

AF 629
Managing Financial Institutions
Staff
Focuses on the financial management of financial institutions. Areas of study include management of liquidity, of loan portfolios, and of capital, as well as overall asset-liability management in depository institutions. The course also deals with the strategic implications of a changing financial and regulatory environment; and especially with issues of managerial decision-making given the volatility of that environment. The course is conducted through case analysis and discussion.
Prerequisite: AF 620.
3 Lect Hrs, 3 Credits

ACM 681
Analytical Writing in Management
Staff
Prepares the management graduate student for advanced writing in other MBA courses, and for effective writing in management. Topics include key ingredients in effective managerial writing; writing as a managerial problem; interpreting and reporting quantitative information; and representative managerial writing situations (e.g., feasibility reports; policy recommendations; research reports).
3 Lect Hrs, 3 Credits

ACM 682
Oral Communication for Managers
Staff
Oral communication is central to the everyday activities of managers. Managers spend much of their average workdays talking with other people—in conversations, meetings, conferences, interviews, and numerous other activities. This course is designed to help graduate students improve their oral communication skills. Its purpose is twofold: (1) to improve students' organizational effectiveness as managers, and (2) to improve students' personal effectiveness as speakers. Course topics include the communication process, communicating in organizations, the substance of oral communication (argument and persuasion), and the form of communication (organization and delivery).
Prerequisite: Completion of four MBA core courses.
3 Lect Hrs, 3 Credits

MGT 651
Personnel Management and Human Resources Planning
Staff
Designed to familiarize students with concepts of human resources management and the principles of planning and forecasting for human resources needs. Issues to be addressed will include career planning and internal labor market analysis, equal employment opportunity and affirmative action practices. Students will examine job design and pay systems, methods of personnel selection and training, issues of productivity and hours of work, the effect of government regulations on working conditions, and personnel administration.
Prerequisite: MGT 650.
3 Lect Hrs, 3 Credits

MGT 652
Labor-Management Relations and the Collective Bargaining Process
Staff
Familiarizes the student with the practice of labor-management relations in the United States. The nature of labor-management conflict, the development of the US labor movement, and a comparison to other Western labor movements will provide the theoretical and historical framework needed to assess the effectiveness of current practice and trends in the development of new practices and institutions. The major areas of study will be the tactics and strategies of management and union representatives and the legal and economic constraints on their behavior in the organization of unions, contract negotiation, and contract administration and interpretation.
Prerequisite: MGT 650.
3 Lect Hrs, 3 Credits

MGT 653
Organizational Diagnosis and Change
Staff
Focuses on the theory, research, and techniques of organizational diagnosis and change. Students will learn how to engage in systematic structural and behavioral analyses and to design effective strategies for intervention and change.
Prerequisite: MGT 650.
3 Lect Hrs, 3 Credits

MGT 661
Public Management
Staff
Examines the application of management concepts, methods, and research findings to the analysis and solution of problems confronting public managers and how public management differs from and is similar to private management. The course explores the relationship of external constituencies and internal resources to effective and ethical performance of public management in the public policy process. The course looks in depth at the primary functions of public managers.
Prerequisites: AF 601, MGT 650, and MGT 660.
3 Lect Hrs, 3 Credits

MGT 662
Public Program Evaluation
Staff
Explores the issues involved in and techniques applicable to evaluation of programs in the public sector. The course focuses on how to define programmatic objectives and output measures and how to develop evaluation methods and instruments. The course further addresses itself to how to implement such studies and demonstrate their worth.
Prerequisites: MGT 660 and MGT 661.
3 Lect Hrs, 3 Credits

MGT 663
Business-Government Relations
Staff
Explores the relationship between government and business in the contemporary United States as well as future possible relationships. The course deals with the various kinds of public policies and governmental activities affecting business such as regulation, promotion, and ownership, and with the ways in which business affects government through participation in the policy process.
Prerequisites: AF 601 and MGT 660.
3 Lect Hrs, 3 Credits

MGT 664
The Legal Environment of Business
Staff
Businesses have become increasingly subject to laws and regulations. Legal and regulatory provisions pervade such aspects of business as the sale of securities; marketing practices; product liability; and business relationships with employees, customers, and other interested parties. This course seeks to help students broaden their understanding of our legal and regulatory system and how it affects them as business managers, so that they will be better able to meet the legal and regulatory demands and responsibilities of business today.
3 Lect Hrs, 3 Credits

MGT 665
International Management
Staff
Introduces students to the perspectives and dimensions of management and organizations in settings that span national boundaries. Course materials will stress the nature, structure, dynamics, and problems faced by international and multinational organizations. Adaptive and competitive strategic behaviors of firms working in cross-national environments will be analyzed as well as the array of economic, socio-cultural, and political determinants of managerial behavior in these settings.
Prerequisites: AF 601, MGT 650, and MGT 660.
3 Lect Hrs, 3 Credits

Business Administration

MGT 680
Management of Health Organizations
Staff
Explores the roles of the health systems manager as planner, organizer, leader, and integrator of health programs. Particular attention will be given to how these roles differ from industry's roles, as well as to the special demands made of the manager in a health systems organization.
Prerequisite: MGT 650.
3 Lect Hrs, 3 Credits

MGT 681
The Health System and Public Policy
Staff
Examines the interface of government, health, and the private sector. This course will explore the various roles government plays as promoter, regulator, and buyer of health services.
Prerequisite: MGT 660.
3 Lect Hrs, 3 Credits

MS 636
Forecasting
Staff
Focuses on three main areas of forecasting: time series analysis, econometric forecasting, and combination forecasts. Topics include moving average models, ARMA and ARIMA models, multiple regression models, the pooling of cross-section and time series data, distributed lag, qualitative and limited dependent variables, evaluation and combination of forecasts, and applications to different forecasting situations. Students make use of computers and appropriate software to apply what they are learning.
Prerequisites: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

MS 637
Operations Planning and Control
Staff
Provides comprehensive coverage of inventory and production systems and the use of quantitative techniques in solving managerial problems arising from the design, planning, and control of such systems. Topics include deterministic single-item models with static demand, decision systems for the case of probabilistic demand, lot sizing techniques, material requirements, planning and scheduling for continuous and intermittent systems, and project scheduling.
Prerequisites: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

MS 638
Management Decision Models
Staff
Familiarizes the student with optimization techniques of both deterministic and stochastic models which solve managerial problems. Also serves the purpose of developing the student's analytical skill to model and characterize management problems that can be solved by such models and techniques. Topics include mathematical programming, network analysis, simulation, queuing, and Markovian decision processes. Students make use of computers and appropriate software to apply what they are learning.
Prerequisites: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

MS 639
Quality Planning and Control
Staff
Discusses issues related to assuring the quality of output for a manufacturing or service system, and approaches used for planning and control. The course includes statistical quality-control techniques for different transformation processes, relationships with the outside environment, and quality information systems.
Prerequisites: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

MS 641
Systems Simulation
Staff
Studies the modeling and the simulation of systems, with emphasis on the use of computer simulation as a decision support tool. Topics include an introduction to simulation; comparison with other techniques; statistical aspects; applications; analysis of data generated by simulation experiments; and modeling that makes use of simulation programming languages.
Prerequisities: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

MS 642
Decision Analysis
Staff
Familiarizes students with issues and techniques in decision analysis. This course looks at approaches and methods in single-attribute and multi-attribute cases under conditions of certainty as well as uncertainty, and discusses the value and utility of individual vs. group decisions. It also reviews techniques for multi-objective programming and assessments, with their assumptions of implied preference. Finally, it deals with real-world applications of multi-objective, group decision methods in the private and public sectors.
Prerequisites: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

MS 645
Systems Analysis and Design
Staff
Covers the process of application system development, with emphasis on information analysis, logical specification, system life cycle, problem identification and feasibility assessment, requirement determination and analysis, make or buy decisions, logical and physical design, hardware and systems software selection, and implementation procedures.
Prerequisites: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

MS 646
Database Management Systems
Staff
Examines database design philosophies and models, logical and physical designs and the goals and objectives of integrated databases. The course also presents an overview of existing mainfraine and micro software products, and the methods of evaluating them. Database administration topics (security, recovery, query interfaces, performance measurement) are also addressed.
Prerequisites: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

MS 647
File and Data Organization
Staff
Provides a technical foundation for the physical structure and design of information systems. The topics covered include managerial aspects of file organization, types of file organization, system evaluation methods, file and data structure techniques for sorting, merging, and searching files.
Prerequisites: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

MS 648
Decision Support Systems
Staff
Introduces decision support systems (DSS's), the interactive computer information systems designed to assist decision making, especially for the individual in a business environment who is not technically trained. The course examines the decision-making process in realistic situations. It discusses the connection between DSS's and database management systems, and provides the basic tools for the building of an effective DSS.
Prerequisites: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

Business Administration

MS 649
Data Communication, Network, and Control
Staff
Examines the characteristics and architectures of data communication networks. The course also introduces standards for local public networks, and discusses international efforts in this area; as well as problems of distributed data management and data control; and the role of data communication as a business function.
Prerequisites: MS 630, 635, and 640.
3 Lect Hrs, 3 Credits

MKT 672
Buyer Behavior
Staff
Examines individual and organizational buying behavior with emphasis on application of concepts and research findings from the behavioral sciences to the solution of marketing problems.
Prerequisite: MKT 670.
3 Lect Hrs, 3 Credits

MKT 673
Marketing Communications
Staff
Designed for students interested in increasing their knowlege of the promotional process. The student learns how to build a totally integrated communications strategy, blending individual external elements such as as advertising, personal selling, sales promotion (including direct marketing and tradeshows), and publicity with internal communicatiòns. The course is managerial in nature and will provide the student with the necesary ability to analyze, plan, implement, and control marketing communications programs.
Prerequisite: MKT 670.
3 Lect Hrs, 3 Credits

MKT 674
International Marketing
Staff
Introduces the student to a systematic treatment of marketing on a global scale. Topics include the world market environment and its characteristics, identifying opportunities, and multinational marketing program development, implementation, and control.
Prerequisite: MKT 670.
3 Lect Hrs, 3 Credits

MKT 675
Industrial Marketing
Staff
Provides an in-depth exposure to contemporary industrial marketing theory and practice. Students interested in the marketing of high technology are especially encouraged to enroll.
Prerequisite: MKT 670.
3 Lect Hrs, 3 Credits

MKT 676
Marketing Strategy
Staff
Examines marketing strategy for strategic business units: its development, implementation, and control. Lectures, case studies, student projects, and guest lectures by prominent and active practitioners provide a framework for the analysis of customers, competitors, market characteristics, and environmental trends that affect the markets for both business and for consumer goods and services.
Prerequisite: MKT 670.
3 Lect Hrs, 3 Credits

Chemistry

Faculty

Joseph S Alper, PhD, *Yale University,* Theoretical Chemistry

Jean-Pierre Anselme, PhD, *Polytechnic Institute of Brooklyn,* Synthesis and Mechanisms of Organic Nitrogen Compounds

Robert L Carter, PhD, *University of Kansas,* Structural Studies of Inorganic Solids by Infrared and Raman Spectroscopy

Robert I Gelb, PhD, *University of Wisconsin,* Chemistry of Electrode Processes and of Solution Equilibria

Marletta E. Haeg, PhD, *University of Wisconsin*, Organic Chemistry, Reactions of Acylnitrenes

Daniel A Laufer, PhD, *Brandeis University,* Synthesis and Properties of Biomolecules, Polymeric Reagents

Thomas N Margulis, PhD, *University of California, Berkeley,* X-Ray Crystallography of Drugs and Natural Products

Henry A Marianl, PhD, *Boston College,* Polyaromatics; Synthesis and Use of Fluorinated Compounds in Carcinogenesis

Paul M McDonagh, PhD, *Lowell Technological Institute,* Reaction of α-Hydroxycarbonyl Compounds with Hydrazine

Peter Pappas, PhD, *Boston University,* Isolation and Characterization of Human Plasma Proteins and Platelet Proteins

John F Reardon, PhD, *Boston University,* Aqueous and Non-aqueous Thermochemistry and Electrochemistry

Lowell M Schwartz, PhD, *Massachusetts Institute of Technology,* Physical Properties of Solutions, Statistical Treatment of Data

Hans van Willigen, PhD, *University Of Amsterdam,* Application of Spin Resonance in the Study of Structure and Dynamics

Chi-Hua Wang, PhD, *St. Louis University,* Chemistry of Free Radicals in Solution

Walter E Weibrecht, PhD, *Cornell University,* Equilibrium Studies of Transmination of Silylamines

Leverett J Zompa, PhD, *Boston College,* Chemistry of Transition Metal Complexes

The Program and Facilities

The requirements for the Master's Degree Program have been designed with a flexibility which will accommodate not only students interested in the usual areas of concentration in chemistry, but also those with interests in other, interdisciplinary, chemistry-related fields. As many as nine of the required thirty-three graduate credits may be earned in a related area of study. Candidates may work in such areas as chemical physics and chemical biology, or in such divergent fields as chemical economics, and chemical writing or editing.

All candidates for the degree of Master of Science are required to take one graduate chemistry course in each of the three areas of Synthesis, Structure, and Dynamics. These courses, which cut across the traditional boundaries of organic, inorganic, analytical and physical chemistry, are designed to give students of diverse backgrounds and with diverse aims a broad overview of the recent advances in chemistry. Three elective courses will allow the student to specialize in a field of his/her choice. Thus students aiming toward a research-oriented PhD degree may take a maximum number of chemistry courses and elect to work on a research project.

This flexible program is designed for recent graduates as well as for people who have positions in high schools, community colleges, and industry and are seeking advancement through further professional training. Attempts will be made to arrange schedules for those who must study part time.

The Department of Chemistry is housed in the modern and well-equipped Science Building at the Harbor Campus. Facilities include laboratory space for the research of sixteen faculty members, glassblowing, machine and electronic shops and access to the Healey Library's science collection.

Research facilities currently available include:

- Numerous uv, vis and ir spectrophotometers
- an ORD/CD and laser Raman spectrophotometer
- nuclear magnetic resonance equipment
- electron spin resonance equipment
- a fully equipped laboratory for X-ray crystallographic studies
- instruments for flash photolysis
- a tunable dye laser
- electroanalytical and radiochemistry equipment
- analytical and preparative gas chromatographs
- high pressure liquid chromatograph
- extensive computing facilities
- atomic absorption spectrometers

Degree Requirements

The candidate is required:

1. To take six one-semester courses of which one is to be in *each* of the areas of Dynamics, Structure, and Synthesis (4 credits per course). All students *must* successfully complete (B or better) Chem 601, 611, and 621 in order to become degree candidates.

2. To participate in a seminar program. This requirement includes the oral presentation of two seminars.

3. To submit and defend an original contribution (thesis) in chemistry or in a chemistry related field (10 credits maximum).

Elective courses can be selected from course offerings of other departments in the University subject to the approval of the Chemistry Graduate Committee.

For graduation the candidate needs a minimum of 33 graduate credits. Up to six credits of grade B or better may be transferred from other institutions subject to the approval of the Chemistry Graduate Committee.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The Chemistry Program will recommend admission for those applicants who present evidence of their ability to do graduate work with distinction. Applicants should present:

1. Graduate Record Examination (GRE) scores (aptitude and advanced tests). Graduates of American colleges or universities are not required to present these scores, but are strongly urged to do so. The GRE is *required* of all candidates with degrees from foreign institutions.

2. Three letters of recommendation.

Courses

Chem 601
Chemical Dynamics I
Staff
Discussions and outside readings in the areas of chemical and physical equilibria and rate processes. Emphasis on thermodynamics from classical and statistical points of view and on chemical reaction mechanisms.
Prerequisite: Acceptance into the Graduate Chemistry Program or permission of instructor.
Hrs by arrangement, 4 Credits

Chem 602
Chemical Dynamics II
Staff
Three or four selected topics of interest to students and staff involved. Typical subjects: molecular transport processes and the Kinetic Theory, photochemistry and excitation transfer processes, surface and electrode rate processes, particle collision dynamics and reactivity, irreversible thermodynamics, interaction of radiation and matter, and molecular state transitions.
Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.
Hrs by arrangement, 3 Credits

Chemistry

Chem 611
Chemical Structure I
Structure determination and theory. Three or four molecules of interest to the students and faculty involved are chosen. Based on these molecules, discussions, readings and laboratory exercises attempt to show how a chemist determines each structure and how the structure is understood by modern chemical theory.
Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.
Hrs by arrangement, 4 Credits

Chem 612
Chemical Structure II
Staff
In tutorial form. Individual students study advanced structure topics with appropriate staff members.
Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.
Hrs by arrangement, 3 Credits

Chem 621
Chemical Synthesis I
Staff
The tactics and strategy of accomplishing the synthesis of a chemical substance. Examples of organic and inorganic systems.
Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.
Hrs by arrangement, 4 Credits

Chem 622
Chemical Synthesis II
Staff
The synthesis and characterization of a number of representative organic and inorganic compounds.
Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.
Hrs by arrangement, 3 Credits

Chem 653
Polymer Chemistry
Staff
An introductory survey of polymer chemistry including polymer structure and stereochemistry, characterization of polymers, categories of polymers, synthesis of reactants, and polymerizations reactions and their mechanisms. Why and how polymers are tailor made will be exemplified. Polymer chemistry as an interdisciplinary and as a unique area of chemical science will be stressed.
Prerequisite: Chem 254 or 256, or permission of instructor.
Hrs by arrangement, 3 Credits

Chem 658
Medicinal Chemistry
Staff
This graduate and upper level professional course presents principles of medicinal chemistry. Organized along pharmacological lines, the course considers the development and design of drugs, those a) acting on the central and peripheral nervous system; b) acting on the cardiovascular, hematopoietic and renal systems; and c) those acting as chemotherapeutic agents, vitamins, and hormones. Special emphasis is given to drugs used in emergencies and to drugs described in the *United States Pharmacopeia* and the *National Formulary.* Syntheses of important compounds in the various categories are presented.
Prerequisite: Chem 254 or equivalent.
Hrs by arrangement, 3 Credits

Chem 691 Seminar I
Staff
Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.
Hrs by arrangement, 1 Credit

Chem 692
Seminar II
Staff
Prerequisite: Acceptance into the Graduate Chemistry Program, or permission of instructor.
Hrs by arrangement, 1 Credit

Chem 693
Topics in Physical Chemistry
Staff
Topical discussions, each based on elementary principles of physical chemistry and progressing toward recent developments in the field. Open to graduates and advanced undergraduates.
Prerequisite: Chem 341 and 369, or equivalent.
3 Lect Hrs, 3 Credits

Chem 694
Topics in Organic Chemistry
Staff
Topical discussions of selected topics of current interest in organic chemistry. Open to graduates and advanced undergraduates.
Prerequisite: Chem 254 or 256, or equivalent.
3 Lect Hrs, 3 Credits

Chem 695
Topics in Inorganic Chemistry
Staff
Topical discussion of selected topics of current interest in inorganic chemistry. Open to graduates and advanced undergraduates.
Prerequisite: Chem 370, or equivalent.
3 Lect Hrs, 3 Credits

Chem 696
Independent Study
Staff
Study of a particular area of chemistry under the supervision of a faculty member.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-10 Credits

Chem 697
Special Topics in Chemistry
Staff
Graduate level readings in various areas of Chemistry under the supervision of a faculty member.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-10 Credits

Chem 699
Master's Thesis
Staff
Open to degree candidates.
Hrs by arrangement, 1-10 Credits

Clinical Psychology

Faculty

Jane Adams, PhD, *New Mexico State University*, Psychobiology, Behavioral Teratology, Human Electrophysiology (Psychology Department)

Barbara Ayres, PhD, *Harvard University*, Cultural Anthropology, Cross-Cultural Studies of Sex Roles, Sociobiological Theories of Marriage Systems (Anthropology Department)

Augusto Blasi, PhD, *Washington University*, Developmental Psychology, Adolescence, Moral and Personality Development (Psychology Department)

James Brennan, PhD, *Kent State University*, Psychobiology, Brain-Behavior Relationships, Conditioned Fear, Auditory Discrimination (Psychology Department)

Deborah Brome, PhD, *University of Maryland*, Clinical Psychology, Development of Self Concept in Black and White Children and Adolescents, Therapeutic Interventions with Minority Populations (Psychology Department)

Dennis Byrnes, PhD, *Brandeis University*, Cognitive Psychology, Attention, Auditory Perception, Human Memory (Psychology Department)

Ann Cordelia, PhD, *University of Chicago*, Sociology, Alcoholism, Corrections, Life-Span Development (Sociology Department)

Estelle Disch, PhD, *Tufts University*, Sociology, Racism and Mental Health, Feminist Therapy (Sociology Department)

Claire Golomb, PhD, *Brandeis University*, Developmental-Clinical Psychology, Representational Development, Symbol Formation in Children's Art and Play (Psychology Department)

Susan Gore, PhD, *University of Pennsylvania*, Medical Sociology, Social Relationships and Mental Health, Stress and Health, Adolescent Stress (Sociology Department)

Lawrence Greene, PhD, *University of Pennsylvania*, Biological Anthropology, Nutrition, Alcoholism (Anthropology Department)

Alan Harwood, PhD, *Columbia University*, Cultural Anthropology, Ethnic Factors in Health Care, Ethnopsychotherapy (Anthropology Department)

Don Kalick, PhD, *Harvard University*, Social Psychology, Social Perception, Social Aspects of Appearance, Influence of Social and Cultural Values on the Individual (Psychology Department)

Bernard Kramer, PhD, *Harvard University*, Social-Community Psychology, Prejudice and Racism, Nuclear Issues (Psychology Department)

Donald Krus, PhD, *Clark University*, Experimental Psychology, Perception, Psychopharmacology (Psychology Department)

Joan Llem, PhD, *Boston University*, Clinical-Community Psychology, Family Processes, Stress and Unemployment, Schizophrenia (Psychology Department)

Michael Milburn, PhD, *Harvard University*, Social Psychology, Attitudes and Behavior, Social Cognition, Political Psychology (Psychology Department)

Celia Moore, PhD, *Rutgers University*, Developmental Psychobiology, Neuroendocrine Systems and Behavior, Development of Species-Typical Behavior (Psychology Department)

Wornie Reed, PhD, *Boston University*, Medical Sociology, Medical Care in Urban Minority Communities and the Elderly (Black Studies Department)

Barbara Ross, PhD, *University of New Hampshire*, History and Systems of Psychology, Philosophy of Science (Psychology Department)

Ina Samuels, PhD, *University of Michigan*, Physiological Psychology, Neuropsychology, Information-Processing Deficits (Psychology Department)

Maxwell Schleifer, PhD, *Boston University*, Clinical Psychology, Families with Special Needs Children (Psychology Department)

Steven Schwartz, PhD, *University of Illinois at Urbana-Champaign*, Cognitive Psychology, Problem-Solving, Metacognition, Learning Programming Skills (Psychology Department)

Timothy Sieber, PhD, *New York University*, Urban Anthropology, Social Class and Ethnicity, Cultural Issues in Urban Development, Schooling (Anthropology Department)

Carol Smith, PhD, *Harvard University*, Developmental Psychology, Cognitive Development, Conceptual Change in Children and Adults, Developing Scientific Concepts (Psychology Department)

Bernard Stotsky, PhD, *University of Michigan*, MD, *Western Reserve*, Psychiatry, Clinical Psychology, Psychopharmacology, Psychology of Aging (Psychology Department)

Edward Strickland, PhD, *New York University*, Experimental Psychology, Visual Perception, Psychological Aspects of the Visual Arts (Psychology Department)

Helen Tager-Flusberg, PhD, *Harvard University*, Developmental Psycholinguistics, Language Acquisition in Normal, Autistic and Retarded Children (Psychology Department)

Castellano Turner, PhD, *University of Chicago*, Clinical Psychology, Racial Attitudes, Social Issues in Psychotherapy (Psychology Department)

The Program

UMass/Boston's PhD Program in Clinical Psychology is designed to prepare students to work in a variety of settings, as clinicians and clinical researchers, with mental health problems in children, adolescents, or adults. The program is housed in the University's Psychology Department. It follows the scientist-practitioner model of clinical training, providing a strong theoretical background in psychology and related social science disciplines, as well as training in essential clinical skills and in conducting research. Its graduates will function as professional psychologists who can translate their basic knowledge into practical applications, and who can advance understanding of key problems through research or other scholarly activities.

The program particularly emphasizes:

- *Theoretical issues in human development from infancy through old age.* Each of the main periods of development is studied from a variety of perspectives within the broader context of the total life span.
- *Interdisciplinary study.* Recognizing that human development itself is multi-determined, the program draws on faculty not only from the Psychology Department, but also from other departments, including the Departments of Anthropology, Sociology, and Black Studies. Team-taught courses and research training give students skills for analyzing and solving practical problems of development and adaptation from a variety of social science perspectives.
- *Sociocultural, ethnic, and minority issues.* The course work highlights social and cultural approaches to human development and clinical psychology, especially as they help to build an understanding of the perspectives of minority and low-income groups. The clinical training prepares graduates to conduct sensitive assessment and therapeutic interventions with members of these groups.
- *Health promotion and problem prevention.* The program trains students in a broad range of assessment and intervention skills that help promote health and adaptation, thus preventing individual and social problems from developing.

Clinical Psychology

Degree Requirements

The Program in Clinical Psychology involves five years of full-time study. Its requirements include

1) Completion of 13 required and 8 elective courses, taken during the first three years of the program.* The required courses are designed to expose students to the specific emphases within the program on interdisciplinary perspectives in human development, ethnic and minority concerns, and problem prevention and health. They also provide students with research training and basic clinical skills in preparation for the practica and internship. Required courses include the following:

Psych 601 and 602 (Assessment and Testing I and II)
Psych 610 (Culture and Mental Health)
Psych 611 and 612 (Developmental Psychopathology I and II)
Psych 620 (Intervention Strategies)
Psych 641 and Psych 642 (Interdisciplinary Perspectives on Life Span Development I and II)
Psych 670 (Advanced Statistics)
Psych 675 (Research Methods and Experimental Design)
Psych 677 (Psychometrics and Program Evaluation)
Psych 680 (History and Systems of Psychology)
Psych 790 (Professional Standards and Ethics)

Students also take eight elective courses selected from among the three areas listed below. In general, students will be expected to take three courses from each of two areas and two courses from the third; they may, however, propose a different distribution of elective courses with appropriate justification and with the approval of the program director.

Group A: Normal and Abnormal Development

This group of courses will cover development across the life span or at particular stages in a range of areas. Through course work in this category, students will acquire competence in the study and analysis of the biological, cognitive/affective, and social bases of behavior, and of individual behavior and individual differences. Courses in this area may include

Personality Development from a Cross-Cultural Perspective

Cognitive Development

Developmental Psychobiology

Language and Cognition in Normal and Atypical Populations

Symbolic Play and Child Art

Affective Development in Adulthood

Medical Aspects of Aging

The Family Life Cycle

*All courses must be completed with at least a grade of B.

Group B: Ethnic and Minority Perspectives

Through courses in this area, the emphasis on ethnic and minority perspectives within the program will be presented. Courses in this area may include

The Black Family

Racism and Mental Health

Cross-Ethnic Issues in Service Delivery

Cross-cultural Perspectives on Aging

Diagnostic Considerations with Minority Populations

Group C: Specialized Assessment and Intervention Techniques

The courses in this category are designed to build on those required courses that focus on psychodiagnosis, psychological assessment, intervention procedures, and program evaluation. Courses in this area may include

Diagnostic Interviewing

Advanced Projective Techniques

Neuropsychological Testing

Family Therapy

Crisis Intervention

Seminar in Psychotherapy

Prevention Programming

Behavioral Techniques

2) Completion of two years of practica. One of the key components of the Clinical Psychology Program is systematic intensive training in the application of basic knowledge to the solution of human problems. Such training is achieved through the required practica, which students complete during the second and third years of the program. Students spend two days a week in practice in a field agency (e.g. community mental health center; school for emotionally disturbed children) that provides supervised experience with client problems and the opportunity to apply a wide range of assessment and intervention techniques. Along with the field component, students enrolled in a practicum attend a seminar on campus once a week.

3) A pre-dissertation research project. By the end of the second year, students are expected to complete an empirical research project, which gives them an opportunity to apply the knowledge gained in the three-course research methods sequence (Psych 670, 675, 677). The research project may be conducted in either a field or laboratory setting, and should maintain an emphasis on interdisciplinary analysis of a particular problem. Students may enroll for 3-6 credits of pre-dissertation research (Psych 699) to complete the requirement.

4) A set of qualifying examinations, taken at the end of the second year. This set of examinations is designed to assess the student's mastery of broad issues in human development and clinical psychology. Three examinations are given, they cover a) major theoretical issues; b) methodological issues; and c) clinical practice. The examinations give students an opportunity to demonstrate their understanding of the interrelationships among the diverse perspectives represented in the program, and to demonstrate the attainment of professional competence for further study at the doctoral level.

5) A doctoral dissertation, which should be completed by the end of the fourth year. One of most important requirements of the doctoral program is the completion of a dissertation: an original empirical project that makes a substantive contribution to the knowledge base in human development or clinical psychology. The dissertation is supervised by a primary advisor and a doctoral committee consisting of at least three faculty members, one of whom comes from a department outside psychology. The committee is responsible for approving the thesis proposal, overseeing the data collection and analysis, and reviewing the written draft of the dissertation. The formal dissertation must be approved by the doctoral committee, and an oral defense must be successfully completed.

6) An internship, typically done in the fifth year, after the student has completed all other requirements: the satisfactory completion of a one year full-time (or two years half-time) APA-approved clinical internship in an outside agency. The internship is the logical extension of the practica. It is designed to complete the student's preparation for functioning as an independent professional clinician.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Students are admitted to the Clinical Psychology Program to work toward the PhD degree only; the program does not offer a terminal master's degree. Applications are due in the Graduate Admissions Office of the University by January 15, for enrollment the following September. There are no spring semester admissions in the Clinical Psychology Program.

Students wishing to apply for admission to the program must complete the University of Massachusetts at Boston Graduate Admission Application Form, with the special supplement for the Clinical Psychology program. Special attention should be paid to the personal statement, which should include all relevant background experience, academic interests, and professional goals.

Clinical Psychology

Students must also meet the following requirements:

- A minimum of 6 courses in psychology, or closely related social science field, preferably including a course in statistics.
- Scores on the general aptitude (verbal, quantitative and analytic) and advanced psychology sections of the Graduate Record Examination (GRE) are required. The Miller Analogies Test (MAT) is also strongly recommended.

The Clinical Psychology Program is especially interested in receiving applications from individuals who have had background experience in some human service field, or have worked in a mental health setting, and who have had research experience. Highly qualified applicants who have a demonstrated commitment to a career serving the needs of urban populations will be given priority. In keeping with the mission of the University, and the particular emphases in the program, individuals from a variety of ethnic and minority backgrounds are strongly encouraged to apply.

The admissions committee will schedule interviews for all finalists, once applications have been reviewed. Interviews are considered an important part of the application process, and whenever possible are held on campus. The program expects to admit ten students each year.

On acceptance, each student is matched with an advisor, based on his or her research and clinical interests. The advisor works closely with the student throughout the course of study, helping to plan course work, select practicum opportunities, guide the student's research training.

Course Descriptions

Graduate courses in the Clinical Psychology Program are ordinarily open only to regularly matriculated students in the program. Students matriculated in other graduate programs who wish to enroll in a graduate psychology course need permission of the instructor and of the program director. Please note: Because the Clinical Psychology Program is new, the course descriptions below appear pending approval, and the descriptions of some elective course offerings currently being planned are not listed below.

Psych 601
Assessment and Testing I
Staff
This course is part of a two-semester sequence focusing on the diagnostic and test administration skills necessary to complete comprehensive cognitive, social, emotional, and personality assessments of children and adolescents. Special attention is paid to the issue of cultural bias in standard psychological tests.
3 Lect Hrs, 3 Credits

Psych 602
Assessment and Testing II
Staff
This course is a continuation of Psych 601. It focuses on the diagnostic and test administration skills necessary to complete comprehensive cognitive, personality, emotional, and social assessments of adults and elderly. Special attention is paid to the issue of bias in standard psychological tests.
3 Lect Hrs, 3 Credits

Psych 610
Culture and Mental Health
Staff
This course examines individual functioning within the context of particular settings and cultural traditions and norms. The importance of conceptualizing both individuals and settings as they shape, reflect and are affected by cultural variables is highlighted. Special attention is paid to developing an appreciation for diverse ethnic and minority group cultures.
3 Lect Hrs, 3 Credits

Psych 611
Developmental Psychopathology I
Staff
A course that examines social, emotional, and cognitive difficulties that can develop during childhood and adolescence. Biological, psychological and sociocultural perspectives on problem behavior are examined. Students become familiar with DSM-III, and the major childhood and adolescent disorders.
3 Lect Hrs, 3 Credits

Psych 612
Developmental Psychopathology II
Staff
An examination of psychological problems and disorders that typically manifest themselves during early or later adulthood. Biological, psychological, and sociocultural perspectives on adult disorders are examined. Students become familiar with the major syndromes classified in DSM-III. This course is a continuation of Psych 611.
3 Lect Hrs, 3 Credits

Psych 620
Intervention Strategies
Staff
An introduction to effective, health-promoting individual, family, group, and social environmental interventions designed to address a wide range of developmental problems. The course employs a case study method: students are presented with a series of case histories and asked to determine the level and mode of intervention most appropriate in each case. Preventive intervention is also stressed.
3 Lect Hrs, 3 Credits

Psych 641
Interdisciplinary Perspectives on Life Span Development I
Staff
This course is part of a two semester sequence that focuses on theoretical perspectives on development across the life span. The course introduces students to psychological and sociological perspectives on human development.
3 Lect Hrs, 3 Credits

Psych 642
Interdisciplinary Perspectives on Life Span Development II
Staff
This course is a continuation of Psych 641. The course introduces students to biological and cultural perspectives on human development across the life span.
3 Lect Hrs, 3 Credits

Psych 670
Advanced Statistics
Staff
This course instructs students in advanced statistical topics and provides training in the use of the corresponding computer methods. The course emphasizes the statistical methods of most general interest and importance to social scientists: multiple regression analysis and analysis of variance.
Prerequisite: Psych 270, or equivalent undergraduate course in statistics.
3 Lect Hrs, 3 Credits

Psych 675
Research Methods and Experimental Design: Research Practicum
Staff
Students in this course are given various research assignments that involve designing studies and analyzing data from both laboratory and field settings. Experimental and quasi-experimental designs are discussed, with special attention paid to issues of internal and external validity. Other topics covered include single-subject designs, meta-analysis, and ethical constraints on research.
3 Lect Hrs, 3 Credits

Psych 677
Psychometrics and Program Evaluation
Staff
A course covering theories of test construction and research designs appropriate for applied settings. Topics include reliability, item analysis, and factor analysis as tools in test construction. The course also considers research designs and statistics appropriate for research in applied settings.
3 Lect Hrs, 3 Credits

Clinical Psychology

Psych 680
History and Systems of Psychology
Staff
This course explores the theoretical and methodological problems of contemporary psychology—especially clinical psychology—in historical perspective. It provides a broad overview of the development of psychology as an independent discipline and of the various subspecialties in the field; and it evaluates the significance of new movements and methods by examining intellectual antecedents and underlying assumptions.
3 Lect Hrs, 3 Credits

Psych 699
Pre-dissertation Research
Staff
Students conduct a pre-dissertation research project on lab or field setting under the supervision of a faculty advisor.
Hrs by arrangement, 3-6 credits

Psych 790
Professional Standards and Ethics
Staff
This course focuses on the ethical standards of practice demanded by the profession of psychology. Students are expected to complete it before starting their first practicum.
3 Lect Hrs, 3 Credits

Psych 796
Independent Studies in Human Development or Clinical Psychology
Staff
Independent work under the supervision of a faculty member on special topics in human development or clinical psychology.
Prerequisite: Permission of instructor and program director.
Hrs by arrangement, 1-3 credits

Psych 798
Practicum I
Staff
A year-long practicum course designed to provide students with supervised clinical training experiences in a field setting for 20 hours a week, including the opportunity to apply a range of assessment and intervention techniques. A weekly seminar complements the practicum work. Open to second year students only.
Prerequisite: Psych 790.
Hrs by arrangement, 6 credits

Psych 799
Practicum II
Staff
A year-long practicum course and a continuation of Psych 798. Students work under supervision in a field setting for 20 hours a week gaining clinical experience, including the application of assessment and intervention techniques. A weekly seminar accompanies the field work. Open to third year students only.
Prerequisite: Psych 790.
Hrs by arrangement, 6 credits

Psych 899
Dissertation Research
Staff
Research, conducted under supervision of doctoral committee, leading to the presentation of a doctoral dissertation.
Hrs by arrangement, 1-6 credits

Computer Science

Faculty

Ethan Bolker, PhD, *Harvard University,* Combinatorial Analysis, Queuing Theory, Performance Modeling

Peter Fejer, PhD, *University of Chicago,* Logic, Theoretical Computer Science

George Lukas, PhD, *Brandeis University,* Programming Languages, Software Engineering

Joan Lukas, PhD, *Massachusetts Institute of Technology,* Computability Theory, Formal Languages, Compilers

Robert A Morris, PhD, *Cornell University,* Text Processing, Document Preparation Systems

Kenneth Newman, PhD, *Cornell University,* Data Structures, Computer Mathematics, Algebra

Elizabeth O'Neil, PhD, *Harvard University,* Operating Systems, Applied Mathematics

Dan Simovici, PhD, *University of Bucharest,* Database Systems, Theoretical Computer Science

Dan Stefanescu, PhD, *Harvard University,* Software Engineering, Programming Languages

Richard Tenney, PhD, *Cornell University,* Computer Communication Protocols

The Program

The University of Massachusetts at Boston provides low-cost, high-quality postgraduate training in computer science for a wide variety of students, full- and part-time, as well as those who want to strengthen specific skills by taking single courses. In order to maximize the accessibility of the program, all graduate courses are scheduled in the late afternoon and evening. The program offers an MS degree in computer science. The Computer Science MS Program is intended as preparation for high-level professional careers in research and commercial applications, although it will also provide the background for further graduate work. The program stresses the integration of theoretical knowledge and practical application. The central course in the curriculum is a two-semester sequence in software engineering, which offers significant design and implementation experience. Related topics include compilers, operating systems, and theoretical computer science.

Faculty interests within computer science include programming languages, compilers, software engineering, computability theory, complexity theory, formal languages, semantics, data bases, data structures, operating systems, computer communication protocols, queuing theory, and office automation systems. The Computer Science Master's Program is served by two VAX 750s running the Unix operating system, and by the computing resources of the Computing Center of the University (including several VAX 780s and a Cyber system).

Degree Requirements

A minimum of 30 credits is required, at least 24 of which must be in courses numbered 600 or above. A ten-credit sequence of four courses in software engineering (CS 610, 611, 612, 613) is mandatory. The program offers other courses in a variety of computer science disciplines: theoretical computer science, databases, compilers, artificial intelligence, operating systems, computer networks.

The minimum grade for graduate credit is C. No more than two grades below B– may count toward degree requirements. Students must also pass a written qualifying examination.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Requirements specific to the program include a good working knowledge of mathematics and computer science. Each applicant's background will be assessed individually with respect to these skills. Approximately 21 semester credit hours of computer science and 6 semester credit hours of mathematics beyond calculus generally provide minimum competency.

The program is designed to accommodate students from a broad range of backgrounds. In particular, the undergraduate degree need not be in computer science. Students can make up deficiencies by taking specific undergraduate courses.

Courses

Some courses in the Department of Mathematics and Computer Science have recently been renumbered. Where they are listed here as prerequisites, both their new and old designations are given (i.e., CS 310/Math 301).

CS 610
Advanced Software Engineering I
Staff
The first semester of a year-long course concerned with long-term, large-scale programming projects. Topics include formal and informal methods of problem analysis, problem specification, system design, system documentation, testing, performance evaluation, and system maintenance in current and future software environments.
Prerequisites: CS 310/Math 301, CS 320/Math 330 and two 400 level Computer Science courses. Corequisite: CS 611.
3 Lect Hrs, 3 Credits

CS 611
Laboratory in Software Engineering I
Staff
First semester of a year-long laboratory associated with CS 610 and CS 612. Students, working in small groups, specify, design, implement and document a large software project.
Corequisite: CS 610.
3 Lect Hrs, 2 Credits

CS 612
Advanced Software Engineering II
Staff
A continuation of CS 610.
Corequisite: CS 613.
3 Lect Hrs, 3 Credits

CS 613
Laboratory in Software Engineering II
Staff
A continuation of CS 611.
Corequisite: CS 612.
3 Lect Hrs, 2 Credits

CS 620
Theory of Computation
Staff
Functions computable by programs. Recursive functions and Turing machines; simulation and diagonalization. Universality and unsolvable problems. Kleene's hierarchy and the recursion theorem. Gregorczyk's hierarchy and Ackermann's function. Abstract complexity and the speed-up theorem. Formal languages and classes of automata. Inherently difficult combinatorial problems.
Prerequisites: CS 310/Math 301 and CS 320/Math 330, or the equivalent.
3 Lect Hrs, 3 Credits

CS 622
Theory of Formal Languages
Staff
This course treats languages from an abstract point of view as defined by formal grammars and by families of abstract machines. It covers the Chomsky hierarchy and associated automata; and emphasizes context-free languages. Careful mathematical definition and proof are stressed throughout. This course does not involve programming. It is of special interest to students interested in linguistics and in the theory of programming language compilers.
Prerequisites: CS 320/Math 330 and CS 350/Math 342, or permission of instructor.
3 Lect Hrs, 3 Credits

Computer Science

CS 624
Analysis of Algorithms
Staff
Basic techniques for designing algorithms: divide and conquer, the greedy method, dynamic programming, etc. Applications to searching and sorting algorithms. Complexity of parsing. The fast Fourier transform and its applications (evaluation of polynomials and arithmetical problems). Lower bound theory. NP-hard and NP-complete problems. Probabilistic estimates of algorithms.
Prerequisites: CS 310/Math 301 and CS 320/Math 330.
3 Lect Hrs, 3 Credits

CS 630
Database Management Systems
Staff
Databases and database management systems. Physical database organization. The relational model. Relational algebra syntax and semantics. Relational calculus (tuple and domain oriented). Relational calculus vs. relational algebra. INGRES and QBE. Query optimization. Non-relational systems (hierarchical and network DBMSs). Distributed databases. Security aspects in databases.
Prerequisites: CS 310/Math 301 and CS 320/Math 330.
3 Lect Hrs, 3 Credits

CS 632
Relational Databases
Staff
Material required for the understanding, design, and implementation of current state-of-the-art relational databases. Functional and multivalued dependencies, normal forms, tableaux, query systems. A comparative study of several relational query languages.
Prerequisite: CS 630/Math 680.
3 Lect Hrs, 3 Credits

CS 634
Architecture of Database Systems
Staff
A study of the architecture and performance of centralized and distributed database management systems. The study will cover the following topics in depth: atomic actions; the transaction and its implementation as an atomic action; serial and concurrent execution of transactions; concurrency control mechanisms for centralized and distributed database systems; concurrency control problems such as deadlock, transaction roll-back, and transaction blocking; serialization and database recovery.
Prerequisites: CS 630/Math 680, CS 440/Math 468 or permission of the instructor.
3 Lect Hrs, 3 Credits

CS 640
Operating Systems
Staff
Structure and dynamics of operating system software. Operating systems as event-driven software: interrupt processing and asynchronous operation. Memory management, scheduling, concurrency, consideration, device drivers. UNIX as a major example.
Prerequisites: CS 310/Math 301 and two graduate Computer Science courses or CS 440/Math 468.
3 Lect Hrs, 3 Credits

CS 642
Performance Modeling
Staff
A survey of the techniques for the mathematical modeling of complex systems and the analysis of models using both analytic techniques and simulation. Particular attention will be paid to the use of queuing theory models for understanding and predicting computer operating system performance.
Prerequisites: Math 345 and CS 440/Math 468.
3 Lect Hrs, 3 Credits

CS 646
Computer Communications Networks
Staff
Need for computer networks. Architectures of networks. Architectures of systems. ISO Reference Model. Standardization efforts. Specification of protocols. Example protocols and networks.
Prerequisite: CS 440/Math 468 or permission of instructor.
3 Lect Hrs, 3 Credits

CS 650
Compilers I
Staff
Introduction to compiler organization and construction techniques. Lexical analysis, parsing, symbol tables and attributed syntax trees. Internal forms of the source program. Storage allocation, error recovery. Translation systems. Programming practice writing a compiler for a reasonably large subset of ALGOL, Pascal or similar algebraic language.
Prerequisites: CS 240/Math 267, CS 320/Math 330, and CS 350/Math 342.
3 Lect Hrs, 3 Credits

CS 652
Compilers II
Staff
Extension of topics in CS 650 with emphasis on code generation and optimization. Case studies of existing implementations. Team projects leading to relatively large-scale implementations.
Prerequisite: CS 650/Math 642.
3 Lect Hrs, 3 Credits

CS 654
Semantics of Programming Languages
Staff
This course presents some of the theoretical foundations of software engineering. Its main objectives are to enable programmers to formulate rigorous statements about the behavior of programs and to define precisely the meaning of different constructs occurring in programming languages.
Prerequisites: CS 320/Math 330, CS 350/Math 342, and math 470 or the equivalent.
3 Lect Hrs, 3 Credits

CS 656
Logic Programming
Staff
This is a course in the theoretical and practical aspects of logic programming. Topics include semantics of logic programming, negation in logic programming, metalevel reasoning, concurrency, databases, expert systems.
Prerequisites: CS 310/Math 301 and Math 470.
3 Lect Hrs, 3 Credits

CS 662
Document Preparation and Text Processing Systems
Staff
An applied course in contemporary document preparation systems.
Prerequisites: CS 310/Math 301
Corequisite: CS 610/Math 650 and permission of the instructor.
3 Lect Hrs, 3 Credits

CS 670
Artificial Intelligence
Staff
The application of the methods of artificial intelligence programming to state-of-the-art expert systems, advice-taking systems and natural language understanding software. The course is project oriented. Students work in teams developing a large system, and become familiar with major research journals.
Prerequisites: CS 350/Math 342, CS 470/Math 410, Math 470 or equivalent background in logic and LISP, and permission of the instructor.
3 Lect Hrs, 3 Credits

CS 697
Special Topics
Staff
Topics of current interest in the field, according to student and faculty areas of specialization. Course content will vary according to the topic and will be announced prior to registration.
3 Lect Hrs, 3 Credits

Counselor Training

Faculty

Walter H Abrams, EdD, *Boston University,* Counseling Theory and Practice, Group Dynamics

Patricia Arrendondo, EdD, *Boston University,* Cross-Cultural Counseling

Edward V Cosgrove, PhD, *Ohio State University,* Psychopharmacology

Raymond R Gilbert, PhD, *Harvard University,* Personality Theory, Psychology of the Penal Offender

Robert A Gracia, PhD, *Boston College,* Group Dynamics, Guidance

MaryAnna D Ham, EdD, *University of Rochester,* Counseling Theory and Practice, Family Counseling

Rick Houser, PhD, *University of Pittsburgh*, Rehabilitation, Assessment

Albert Jurgela, PhD, *Boston College*, Psychopathology

Thomas Kent, EdD, *Boston University,* Substance Abuse Counseling

Varda Konstam, PhD, *Fordham University,* Family Counseling

Joseph Liftik, PhD, *Southern Illinois University,* Substance Abuse Counseling

Blanca Cody-Murphy, EdD, *Boston University,* Counseling Theory and Practice

Arthur J O'Shea, PhD, *Boston College,* Psychological Testing, Psychology of Careers

Jon T Walek, EdD, *Boston University,* Personality Theory, Counseling Theory and Practice

The Program

The Master of Education in Counselor Training Program allows the student to concentrate in one of three counseling areas: community, rehabilitation or school. Through course work and field work experiences, students are prepared for professional positions in many settings—clinics, residential treatment facilities, hospitals, schools, rehabilitation agencies, career planning centers, employee assistance programs, and other mental health services. The program also prepares prospective candidates for doctoral study in counseling psychology.

The Counselor Training Program gives students a background in the basic principles and theories of psychology, and enables students to acquire specific skills in counseling and assessment. Practicum training sites are available in a variety of mental health, educational, and rehabilitation facilities. The practicum is the most critical part of the program and includes on-site professional supervision as well as seminar meetings at the University. The school track meets the current certification standards of the Commonwealth of Massachusetts.

In order to accommodate many students in the program who hold full-time positions, courses are offered late afternoons and evenings and meet once a week.

Degree Requirements

Candidates in each of the three areas must complete a sequence of core courses, a two-semester practicum, and a 15-hour concentration in their track. They must also pass a written comprehensive examination.

All candidates for the MEd degree must complete the following core courses: Coun 601, 605, 607, 608, 614, 615, 698 (two semesters).

Each concentration requires additional courses as follows:

Community Counseling
Coun 616, 622, 3 electives

School Counseling
Coun 613, 616, 622, 630, 1 elective

Rehabilitation Counseling
Coun 602, 613, and 3 electives (subject to faculty approval).

Note: Students in rehabilitation interested in certification as alcoholism counselors must take Coun 670, and Coun 671 or 672 or 675.

Admission Requirements for the MEd

Please see the general statement of admission requirements for all Graduate Studies programs.

The Counselor Training Program will recommend admission for applicants who present evidence of their ability to complete a graduate course of studies with distinction. Such evidence will normally include:

1. A minimum of five courses in psychology or the equivalent.
2. A distinguished undergraduate transcript with at least a 3.0 overall average.
3. Graduate Record Examination aptitude scores or a score on the Miller Analogies Test (MAT).
4. An interview with a member of the Counselor Training faculty.

Certificate of Advanced Graduate Study (CAGS)

The CAGS in Counselor Training Program serves the needs of persons who hold the Master's degree in counseling or its equivalent and who seek additional professional and personal development in a planned and structured sequence of graduate level courses.

Each candidate develops, with the assistance and approval of the graduate program director, an individualized program of ten courses which addresses his or her needs, interests, and aspirations while satisfying the requirement that a CAGS course of study have a clear focus and rationale. In addition, each candidate completes a supervised one-year practicum experience in a school, clinic, or agency.

Admission Requirements for the CAGS

Please see the general statement of admission requirements for all Graduate Studies programs.

Candidates for the CAGS in Counselor Training must:

1. Hold a master's degree in counseling or its equivalent with a minimum average of 3.25 (B+).
2. Have an interview with a member of the Counselor Training faculty.

Coun 601
Research and Evaluation in Psychology
Mr Houser
A variety of approaches to investigative research is examined. Review of rationale and methodologies associated with various research strategies is undertaken. Relevant statistical topics are developed conceptually especially as related to specific applied academic settings.
3 Lect Hrs, 3 Credits

Coun 602
Medical and Neurological Orientation to Rehabilitation Counseling
Mr Houser
The course is designed to offer students with little or no exposure to advanced life sciences the opportunity to examine the physiological and anatomical basis for many chronic diseases with which they will work in a rehabilitation counseling setting. Students are presented with the etiology, progress, and potential resolution of a wide range of disorders as well as the psychological impact and limitations placed on patients by their diseases.
3 Lect Hrs, 3 Credits

Coun 605
Group Psychological Testing
Mr O'Shea
A survey of standardized tests used in assessing aptitudes, interests, and personality traits. The course covers technical and methodological principles and social, ethical, and legal implications of psychological testing.
3 Lect Hrs, 3 Credits

Counselor Training

Coun 607
Theories of Personality
Mr Walek
This course is designed to lead to an understanding of the issues underlying the development of personality theory and personality constructs. Personality theory and current research will be examined through three central perspectives: Psychoanalytic Theory, Social Learning Theory, and Cognitive Development Theory. Measurement, assessment, and validation issues will also be addressed.
3 Lect Hrs, 3 Credits

Coun 608
Abnormal Psychology
Mr Jurgela, Mr Quinn
A comprehensive view of abnormal behavior in modern times. The course will make use of the revised D.S.M.III classification systems of mental disorders and will examine patterns of abnormal behavior including: neuroses, psychosomatic conditions, psychosis including affective disorders, schizophrenias, behavior of childhood and adolescence, sexual dysfunctions, and drug abuse. There is also a brief coverage of therapeutic treatments and their effectiveness.
3 Lect Hrs, 3 Credits

Coun 613
Vocational Development and Career Information
Mr Walek
The vocational development component of the course will concentrate upon the theories of Roe, Holland, Ginzberg, Super, and Tiedeman. The career information component, which will be a major emphasis, will direct the student to locate and use sources of educational-vocational information. These sources will include but not be limited to the *Dictionary of Occupational Titles, Occupational Outlook Handbook, Guide to Occupational Exploration,* local labor market information, military careers, evaluation of occupation-education information, college and vocational school guides and catalogues.
3 Lect Hrs, 3 Credits

Coun 614
Counseling Theory and Practice I
Mr Abrams, Ms Ham
The purpose of this course is to provide grounding in the commonalities of counseling techniques and practice in utilizing various techniques. The course will cover the essentials of interviewing, note taking, and report writing, and the role of diagnosis. Tapes and role playing will be required.
3 Lect Hrs, 3 Credits

Coun 615
Counseling Theory and Practice II
Staff
This course is an extension of Counseling Theory and Practice I. Major theoretical approaches (dynamic, humanistic, behavioral) are considered. There will also be exploration of some non-traditional approaches. Use of tape recordings, films, written records of interviews, and role playing.
Prerequisite: Coun 614.
3 Lect Hrs, 3 Credits

Coun 616
Group Counseling and Group Dynamics
Mr Abrams, Mr Gracia
An introduction to group dynamics which uses the group process of the class to provide experience of group membership and data for interpretation. Participation as a group member is required. Readings and lectures will build a cognitive base for evaluating the experiential learning.
Prerequisite: Coun 615.
3 Lect Hrs, 3 Credits

Coun 622
Family and Parental Counseling
Ms Ham
This course examines theories of family dysfunction and treatment from a systems perspective including the dynamics of family interactions, development tasks of the family life cycle, communication and structural theory, systems inventories, and family interviewing skills training.
Prerequisite: Coun 615.
3 Lect Hrs, 3 Credits

Coun 623
Vocational Counseling
Staff
An intensive study of the vocational counseling process. Topics will include vocational interests, aptitudes, values, and counseling techniques. Students will be required to submit audio and video tapes of vocational counseling sessions.
Prerequisites: Coun 613 and Coun 614.
3 Lect Hrs, 3 Credits

Coun 625
Advanced Family Counseling
Ms Ham
This course focuses on the use of family therapy concepts from a systems perspective. Three basic family system models are reviewed and used as the basis for implementing family therapy techniques. Classes include lectures, videotapes, and role play.
Prerequisites: Coun 614 and 615.

Coun 628
Issues in Family Counseling
Staff
This course focuses on both clinical and theoretical aspects of family therapy. Issues for discussion include the value and ethical belief systems of both family and counselor; family membership; various models in the field and their correctness of fit; and strategies for treatment of symptom-focused families. This is a discussion course, rather than a clinical one.
Prerequisites: Coun 614, 615, and 622.

Coun 630
Principles of Guidance
Mr Gracia
The basic philosophy, scope, and techniques of guidance in schools are reviewed and analyzed. Discussion of practical issues relevant to school counseling: the school as an institution; relations between counselor, administrators, teachers, and parents; developmental education; sex education; counseling standards and legislation; roles of the school counselor; professional development.
3 Lect Hrs, 3 Credits

Coun 632
Rehabilitation of the Drug Dependent
Staff
This course offers an intensive study of substance addiction, intervention, and treatment, with an emphasis on case studies.
3 Lect Hrs, 3 Credits

Coun 635
Behavioral Counseling
Mr Gracia
A rigorous examination of social learning theory as a basis for practice for therapeutic behavioral counseling. Through lectures, readings, demonstrations, and discussions, students will be presented with the fundamental techniques of behavioral counseling. Operant, classical, modeling, and cognitive methods will be presented.
Prerequisites: Coun 614 and 615.
3 Lect Hrs, 3 Credits

Coun 652
Perspectives in Cross-Cultural Counseling
Staff
This course addresses the role of culture in counseling and psychology by looking both at history and at current issues. Discussions use an interdisciplinary framework to approach the question of counseling in a multi-cultural society. The course seeks to contribute to both the personal and the professional development of its participants.
Prerequisites: Coun 614, 615, and 622.

Counselor Training

Coun 662
Rehabilitation of the Penal Offender
Mr Gilbert
This course will provide graduate students with a psychological perspective on crime and criminal justice in the United States. The course will focus on current explanations of offender behaviors and treatment efforts to change them. It will attend to the various ethical and "effectiveness" issues raised by critics of rehabilitation. Diagnostic and therapeutic roles and strategies of psychologists will be explored as they have developed in institutional and community settings.
3 Lect Hrs, 3 Credits

Coun 663
Psychology of Death and Dying
Staff
This course explores many issues related to death: loss, separation, anxiety, aging, terminal illness, euthanasia, and bereavement. Counseling techniques will be discussed.
3 Lect Hrs, 3 Credits

Coun 664
Child Abuse and Neglect
Staff
This course addresses the growing problem of child abuse and neglect in American society. Psychodynamic and sociocultural factors that contribute to child abuse will be explored. Emphasis will be placed on prevention, intervention, treatment, and the legal aspects of abuse and neglect.
3 Lect Hrs, 3 Credits

Coun 670
The Use and Abuse of Alcohol in Society
Mr Kent
This course surveys the broader problems caused by the abuse of alcohol in modern society. It presents and analyzes data. Part of the course is devoted to a study of the physiological consequences of abusive drinking. The course will also consider poly-drug abuse, the family of the alcoholic, Alcoholics Anonymous, and the relationship of the criminal justice system to alcoholism rehabilitation. Students will visit various agencies characteristic of those which make up the community-based treatment system.
3 Lect Hrs, 3 Credits

Coun 671
Employee Assistance Programming
Mr Kent
This course focuses on the historical development of and current critical issues in employee assistance programming. It also considers the major elements and procedures in employee assistance programs with special emphasis on industrial organizations.
Prerequisite: Coun 670.
3 Lect Hrs, 3 Credits

Coun 672
Alcoholism and the Family
Mr Liftik
This course will emphasize the ways families with alcoholic members function. The course will explore methods and resources available for helping such families.
Prerequisite: Coun 670.
3 Lect Hrs, 3 Credits

Coun 673
Alcoholism Counseling and Therapy
Mr Liftik
Students in this course become familiar with the techniques and tactics associated with various methods of treating people addicted to alcohol. It offers instruction and supervised practice in treatment approaches, for example, Alcoholics Anonymous, milieu therapy, transactional analysis, and reality therapy.
Prerequisites: Coun 670 and 614.
3 Lect Hrs, 3 Credits

Coun 674
Psychopharmacology of the Drug Ethanol
Mr Cosgrove
This course considers the nature of ethanol and the ways it affects alcoholics in mind and body before, during, and after treatment.
Prerequisite: Coun 670.
3 Lect Hrs, 3 Credits

Coun 675
Organization and Administration of Alcoholism Treatment Facilities
Mr Kent
Students in this course become familiar with the management and operation of the six institutional components important to a total alcoholism rehabilitation network. The role and function of both state-level and Federal agencies will be discussed. Coursework will include community organizations, assessing community needs, use and abuse of negotiation skills, and the leadership role of the alcoholism services administrator. Also: record keeping, fiscal management, legal, ethical and moral standards applicable to alcoholism treatment, board/director/staff relationships, volunteerism, and gate-keeping.
Prerequisite: Coun 670.
3 Lect Hrs, 3 Credits

Coun 696
Independent Study in Counselor Training
Staff
This course involves the comprehensive study of a particular topic or a fieldwork experience under the direction of a faculty member. A detailed proposal must be submitted to the faculty member prior to registration.
Hours by arrangement, 3-6 Credits

Coun 697
Special Topics in Counselor Training
Staff
An advanced course offering intensive study of selected topics in Counseling Psychology. Course content will vary according to the topic and will be announced prior to registration.
Hours by arrangement, 3-6 Credits

Coun 698
Practicum in Counselor Training
Mr Gilbert, Ms Ham
Students are placed as apprentice counselors in schools or agencies under the direct supervision of professionals. Students meet weekly on campus in a three-hour seminar.
Prerequisites: Coun 605, 607, 608, 614, 615.
3 Sem Hrs, 6 Credits

Critical and Creative Thinking

Faculty

Edmund Beard, PhD, *Columbia University*, Public Policy formation and Implementation

Lawrence Blum, PhD, *Harvard University*, Ethics and Moral Philosophy (Philosophy Department)

Ruth Butler, PhD, *New York University*, History of Sculpture, 19th and 20th Century Art (Art Department)

Dennis L Byrnes, PhD, *Brandeis University*, Human Memory and Learning (Psychology Department)

Patricia Davidson, EdD, *Harvard University*, Mathematics Education, Neuropsychology of Mathematics Learning, Creative Teaching Strategies (Mathematics and Computer Science Department)

Lynn Dhority, PhD, *Harvard University*, Teacher Coaching and Support, Multi-modal Learning and Teaching, Creative Teaching Strategies (German Department)

Delores Gallo, EdD, *Harvard University* Elementary Education, Creativity and Learning (Critical and Creative Thinking Program)

Claire Golomb, PhD, *Brandeis University*, Symbol Formation in Child Art and Dramatic Play (Psychology Department)

Thomas N Margulis, PhD, *University of California at Berkeley*, Crystallography, Structural Chemistry, Science Education (Chemistry Department)

Jane Martin, PhD, *Harvard University*, Philosophy of Education, Philosophy of Action (Philosophy Department)

Arthur Millman, PhD, *University of Chicago*, Philosophy of Science and Technology, and Scientific Method (Philosophy Department)

John R Murray, EdD, *University of Massachusetts at Amherst*, Biology and Science Education (Critical and Creative Thinking Program)

Ronald Pollto, EdD, *Boston University*, Film Studies, Slide/Tape Production, Photographic Principles (Art Department)

Martin Posner, PhD, *Princeton University*, Concepts of Physics Teaching, Biophysics, Cell Physiologic and Molecular Studies (Physics Department)

Steven Schwartz, PhD, *University of Illinois*, Learning, Perception, Statistics (Psychology Department)

A P Simonds, PhD, *Harvard University*, History of Politics (Political Science Department)

Carol Smith, PhD, *Harvard University*, Cognitive Development in Children and Adults, History of Science (Psychology Department)

Robert Swartz, PhD, *Harvard University*, Theory of Knowledge, Moral Education, Philosophy of Education (Philosophy Department)

Helen Tager-Flusberg, PhD, *Harvard University*, Language Development, Cognitive Development, Language and Cognition Disorders (Psychology Department)

Harold B Thurman, MA, *University of Louisville*, Practicing Artist; Graphic Design, Art Education (Art Department)

The Program

The Critical and Creative Thinking Program is an interdisciplinary graduate program primarily involving philosophy, psychology and education. It offers a Master of Arts degree and various non-degree possibilities for those not interested in the MA. The CCT Program is designed to provide teachers, curriculum developers, and other interested persons both with an understanding of the processes of critical thinking and creativity and with ways of helping others develop these basic skills in a variety of formal and informal educational settings, especially elementary, middle, and secondary schools. This is accomplished through psychological studies of the scope, limits, and techniques of critical and creative thought, information processing, and conceptual learning in children and young adults; through philosophical studies of techniques in reasoning, argument, logical thinking, valuing, and judging; and through work with educational techniques for stimulating creativity and critical thought in children and adolescents.

Specialty content areas, within which students can become particularly expert at applying critical and creative thinking skills in a specific field, are available. The three standard specialty areas are:

Moral Issues and Moral Education

Criticism and Creativity in Literature and the Arts

Critical and Creative Thinking in Mathematics, Science, and Technology

Individualized specialty areas are also possible.

One primary goal of the CCT Program is to help practicing teachers and other educators translate what they learn in CCT into strategies, materials, and curriculum interventions for use in their own classrooms or educational settings. Thus, participants in the program combine classroom work on campus with applications of this work in their own teaching.

Degree Requirements

Thirty graduate credits are required to complete this program. While it is possible for a full time student to complete the program in one year (two semesters and one summer term), many students combine the program with their ongoing careers and therefore take two or three years. In general, courses are offered after 4 pm as well as during the summer, to suit the scheduling needs of teachers and other professionals.

The program has six components:

1. A sequence of two core courses, CCT 601 and 602 (Critical Thinking and Creative Thinking) to be taken at the beginning of the program (6 credits).
2. Two advanced core courses in the philosophy and the psychology of thinking, Phil 601 and Psych 650, to be taken as soon as possible after CCT 601 and 602. (6 credits).
3. One course chosen from any of the specialized content areas mentioned above.
4. Two electives within the specialty area, chosen from among offerings in CCT, or from among relevant courses in other academic departments (6 credits).
5. A practicum course and an evaluation seminar in which curriculum interventions are developed, implemented, evaluated, and modified (6 credits).
6. A supervised thesis program (3 credits).

The thesis provides an opportunity for the student to integrate the knowledge and skills gained in various components of the program into a significant original contribution. Students may select any of the following four thesis options:

1. A thinking oriented curriculum development project.
2. An empirical study of an educational intervention.
3. A critique of curriculum materials or of a curriculum program.
4. A theoretical thesis on some major issue.

Critical and Creative Thinking

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The Critical and Creative Thinking Program will recommend for admission those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will normally include:

1. A distinguished undergraduate transcript with at least an average of 3.0.
2. At least three positive and informed letters of recommendation submitted by persons who are knowledgeable about teaching, who have worked closely with the applicant, and who have direct knowledge of the applicant's teaching skills.

In addition, applicants may submit results of the Graduate Record Examination (GRE) or the Miller Analogy Test (MAT) and evidence of teaching competency, such as curriculum projects or lesson plans.

CCT 601
Critical Thinking
Ms Gallo, Mr Swartz
This course will explore issues about the nature and techniques of critical thought, viewed as a way of thinking aimed at minimizing error and irrationality in our beliefs and attitudes. Views about observation and interpretation, reasoning, and inference, and valuing and judging will all be considered in this general context, with special reference to questions about how we can help others to develop the skills needed to do these things well, especially through our standard educational structures.
3 Lect Hrs, 3 Credits

CCT 602
Creative Thinking
Ms Gallo, Mr Schwartz
The main purpose of this course is to increase participants' understanding of creativity, to improve their creative problem-solving skills, and to enhance their ability to promote these skills in others, in a variety of educational settings. Students will be asked to participate in activities designed to develop their own creativity. The creative process will be discussed from various theoretical perspectives. Literature on creative persons, or environments that tend to enhance creative functioning, and on related educational issues will also be included. We will invite those especially involved in the creative process, including artists and scientists, to discuss their own techniques and ways in which creativity can be nurtured.
3 Lect Hrs, 3 Credits

CCT 611
Seminar in Critical Thinking
Staff
Research on and discussion of important issues of current concern about critical thinking. This seminar will treat topics such as: critical thinking, logic and knowledge; critical thinking about facts and about values: is there a difference?; artificial intelligence models of critical thinking; teaching to be critical; and evaluating critical thinking skills.
Prerequisite: CCT 601 or permission of instructor.
3 Lect Hrs, 3 Credits

CCT 612
Seminar in Creativity
Staff
Research and discussion of important issues of current concern in the field of creativity. The seminar will analyze work on the creative person, the creative process, and the development of creative performance in both art and science. It will draw on materials from a variety of sources including biography, intellectual histories, psychological studies and educational research. The topics dealt with will include perspectives on the creative process; from logical extension to intuitive leap; distinguishing scientific and artistic creativity; the person; the role of insight; demythologizing creativity; social context and creative productivity; evaluating creativity; educating for creativity.
Prerequisite: CCT 602 or permission of instructor.
3 Lect Hrs, 3 Credits

CCT 620
Moral Education
Ms Martin, Mr Swartz
A comprehensive analysis of the basic issues in moral education from an interdisciplinary perspective. Philosophical studies of the nature of morality and the moral life will be integrated with psychological studies of moral development and human motivation and brought to bear on issues in teaching morality, especially in elementary and secondary schools, in a democratic society. Topics covered will include: rationality, emotion, and motivation in moral action; the moral life and the aims of moral education; the moral development of children; moral education vs indoctrination; socialization, the "hidden curriculum," and moral education. Throughout this course theoretical insights will be applied to an examination of materials, programs, and practices in moral education, both in schools and in the wider community.
Prerequisites: CCT 601 and CCT 602 or permission of instructor.
3 Lect Hrs, 3 Credits

CCT 625
Seminar in Moral Education
Staff
Research on and discussion of issues of current concern about morality, human development, and education. This seminar will treat topics such as: skills in moral decision-making and in moral action; knowledge and desire in morality; moral responsibility; does the moral development of boys and girls differ?; moral emotions; indoctrination; evaluating moral development; and moral education through literature.
Prequisite: CCT 620 or permission of instructor.
3 Lect Hrs, 3 Credits

CCT 630
Criticism and Creativity in Literature and the Arts
Staff
Expression and evaluation, freedom and discipline, creative production and its critique—how do these dualities relate to visual and verbal imagination as they are demonstrated in literature and the arts? Specific strategies for eliciting imaginative work in these areas will be demonstrated, as will specific strategies for evaluating imaginative works. Finally, this course will focus on ways of helping others (including children) to develop these skills and effectively utilize these strategies.
Prerequisites: CCT 601 and CCT 602, or permission of instructor.
3 Lect Hrs, 3 Credits

CCT 635
Seminar in Criticism and Creativity in Art
Staff
Research on and discussion of some of the important issues of current concern in art criticism and the analysis of creativity in the arts. The course will draw on research from psychology, philosophy, and art criticism. As part of the program's interdisciplinary emphasis, the course will offer opportunities for intellectual synthesizing. It will focus on issues of definition and evaluation in the arts and the implications for instruction. The seminar will treat topics such as perception and judgment in the arts; modes of representation and creative expression in the arts; intention and meaning in art criticism; truth in the arts; art and morality; aesthetic attitude, experience, and aesthetic standards; criticism in aesthetic education; evaluating creativity in the arts.
Prerequisite: CCT 630 or permission of instructor.
3 Lect Hrs, 3 Credits

Critical and Creative Thinking

CCT 640
Critical and Creative Thinking in Science and Technology
Staff
This course will explore issues about experiment, discovery, and application in science and technology, and the professional, social and moral issues to which these give rise. These issues will be developed through discussion of topics such as: inquiry and problem-solving in science; hypothesis formation; observation and experiment; theories, paradigms, and revolutions in the history of science; relationships between common sense and science; similarities and differences between critical and creative thinking in science and in other fields; problems in the social control of science and technology. Such examples as the space program, the discovery of the structure of DNA, genetics and genetic technology, risk-benefit analysis of nuclear technology, the role of women in science, and the controversy over ESP will be explained in depth and detail and related to more general themes about critical and creative thinking in science and technology. Implications of this study for science teaching in both elementary and secondary schools will be discussed.
Prerequisites: CCT 601 and CCT 602, or permission of instructor.
3 Lect Hrs, 3 Credits

CCT 645
Seminar in Scientific Thinking
Staff
Research on and discussion of issues of current concern about scientific thinking. This seminar will treat topics such as: observation and theory in scientific thinking; science and pseudoscience; conceptual change in children and adults; the impact of views of cognitive development on the teaching of science; scientific revolutions; and creative problem-solving in science.
Prerequisite: CCT 640 or permission of instructor.
3 Lect Hrs, 3 Credits

CCT 652
Children and Science
Mr Murray, Ms Smith
This course explores the ways children think about their natural and social world and how this affects their learning of science. We will be particularly concerned with identifying and describing the organized conceptual frameworks children have prior to instruction (which typically are different from the scientists' conceptualizations) and with understanding the general processes by which conceptual frameworks can be changed. One important question concerns in what ways children are fundamentally different learners and thinkers than adults and in what ways they are fundamentally similar.
3 Lect Hrs, 3 Credits

CCT 670
Thinking, Learning, and Computers
Mr Murray
This course involves comparative studies that pair the problem-solving and decision-making logic of computers with similar processes in human thinking. Participants use artificial intelligence software to explore the idea of "machine intelligence" and its relation to the ways their own minds organize and process information. The course includes readings in current research literature about the ways computers can be used to model and simulate human thinking processes.
Prerequisites: CCT 601 and 602, and Psych 650, or permission of instructor.
3 Lect Hrs, 3 Credits

CCT 685
Seminar on Issues in Educational Evaluation
Staff
A critical study of the nature, techniques, scope and limits of the major forms of educational evaluation, set in the context of broader issues about evaluation. Special emphasis will be put on the nature of quantitative and qualitative methods of educational evaluation. Part of class time will be spent on issues that arise in connection with the evaluation of specific curriculum projects and teaching techniques of teachers involved in the seminar.
Prerequisites: CCT 601 and CCT 602, or permission of instructor.
3 Lect Hrs, 3 Credits

CCT 696
Independent Study
Staff
This course involves the comprehensive study of a particular topic or area of literature determined by the student's need; the study is pursued under the guidance, and subject to the examination, of the instructor. An application or outline of study should be submitted to the instructor by the end of the semester previous to that in which this course is to be taken.
1-6 Credits

CCT 697
Special Topics in Critical and Creative Thinking
Staff
This advanced course will offer intensive study of selected topics in the field of critical and creative thinking. The course content and credit will vary according to the topic and will be announced during the advance registration period.
3 Lect Hrs, 3-6 Credits

CCT 698
Practicum
Staff
Supervised planning and implementation of an educational intervention which is designed to enhance critical and/or creative thinking skills.
Prerequisites: CCT 601 and CCT 602, or permission of instructor.
3 Credits

CCT 699
Thesis Research
Staff
A one-semester supervised practicum course designed to help students to complete the required thesis. The thesis shall be a substantial piece of research on some facet of the thinking process as it can be applied to one of the substantive specialty areas or exemplification in a curriculum intervention. It may take the form of a theoretical paper or an empirical study.
3 Credits

Departmental Courses (Required)

Phil 601
Foundations of Philosophical Thought
Staff
By discussing four or five traditional substantive problems in philosophy—morality, the nature of knowledge, freedom of the will, the nature of mind, and social organization—we will attempt to derive a common approach that philosophers bring to these problems when developing their own solutions and criticizing the solutions of other philosophers. We will also consider some of the ways that substantive issues and debates in philosophy relate to contemporary non-philosophical issues in our society and can be introduced into a broad range of educational environments outside standard philosophy courses.
Prerequisites: CCT 601 and CCT 602, or permission of instructor.
3 Lect Hrs, 3 Credits

Psych 650
Cognitive Psychology
Staff
A survey of the field of cognitive psychology from an information-processing viewpoint. This course will consider how people encode, organize, transform and output information. Emphasis will be placed on such topics as concept formation, problem-solving, and creative thinking.
Prerequisites: CCT 601 and CCT 602, or permission of instructor.
3 Lect Hrs, 3 Credits

Electives

Electives may be chosen from CCT and relevant departmental courses, 300-level or above, with permission of the program.

Dispute Resolution

Faculty

David E Matz, JD, *Harvard University*

The Program

The Graduate Certificate Program in Dispute Resolution is designed to train professionals who find themselves dealing with conflict as part of their employment. The curriculum emphasizes the development, role, and management of conflict in organizations, (government agencies, schools, hospitals, corporations, universities, and communities).

This is a two-semester program for students who attend on a full-time basis. The program begins in January and runs through December with the usual University holidays and vacation and no summer semester.

In the first semester, students take 2 basic skills courses (Negotiation and Mediation) and a theoretical course (Theories of Conflict Resolution) which examines the scholarly work that is most useful for practitioners of mediation and negotiation.

The second semester offers advanced courses that build upon the first semester's work, and an internship where students gain practical experience in the field. The advanced skills course (Advanced Negotiation and Mediation) builds on the introductory courses and examines the resolution of conflict in different contexts.

All classes are held at the Downtown Center (at the corner of Arlington and Stuart Streets). Classes are held three evenings per week from 6:00 to 8:30 p.m.

The internship may require a one half day per week daytime commitment.

Certificate Requirements

Students are required to complete 15 credits: 12 credits (4 competencies) in course work, and an internship carrying an additional 3 credits. The internship can be undertaken in one of three ways: 1) a volunteer placement that utilizes skills developed in the program; 2) a research project and paper; 3) a project at the student's job which employs skills acquired from the program. All of these will be under faculty supervision. A certificate will be issued upon successful completion of the program.

Admission Requirements

To be eligible for admission, students must have
1. a bachelor's degree (or equivalent),
2. experience coping with conflict, and
3. adequate writing skills.

DisRes 600
Negotiation
Staff
This course focuses on building students' skills as negotiators. Students learn what strategies are available to negotiators and how to choose among those strategies to achieve a desired settlement. Role plays and critiques are a major component of this class.
3 Credits (1 Competency)

DisRes 601
Mediation
Staff
This course focuses on developing students' skills as third party intervenors in disputes. Students explore strategies for gaining trust as a neutral and for helping parties discover areas of mutual interest. Role plays and critiques are a major component of this class.
3 Credits (1 Competency)

DisRes 602
Theories of Conflict Resolution
Staff
This course is a study of theories and bodies of research that have produced conflict-resolving techniques. It focuses primarily on communication breakdown, perceptual distortion and bias, conflict diffused throughout an organization, and predicting patterns of conflict. Case studies will be used to illustrate these theories.
3 Credits (1 Competency)

DisRes 603
Advanced Negotiation and Mediation
Staff
This course builds on the introductory courses and examines the resolution of conflict in different contexts.
Prerequisite: DisRes 601 or permission of instructor.
3 Credits (1 Competency)

Education (Elementary and Secondary)

Faculty

Luleen Anderson , PhD, *Boston University,* Clinical Psychology

Delores Gallo, EdD, *Harvard University,* Critical and Creative Thinking

Barbara Gould, EdD, *Boston University,* Reading, Social Studies, Graduate Practicum

Joanne Gurry, EdD, *Boston University,* Curriculum and Instruction, Reading, Language Arts

Jane A Martin, PhD, *Harvard University,* Philosophy of Education

Charles F McCarthy, EdD, *Boston University,* Critical Issues in Education, Behavior Modification

John R Murray, EdD, *University of Massachusetts, Amherst,* Science Education

Jean M Phelan, EdD, *Boston University,* Reading, Language Arts, Math Education, Computer Education

R Timothy Sieber, PhD, *New York University,* Sociocultural Foundations of Education

Barbara Signer, PhD, *University of South Florida,* Computer Education, Math Education

Robert Swartz, PhD, *Harvard University,* Critical and Creative Thinking

The Program

The Education Program is an interdisciplinary MEd program involving appropriate disciplines in the liberal arts and in education. The program offers two tracks, each of which provides options at both the elementary and the secondary level. Track A is for teachers, already certified, who wish to develop their professional skills through further study and research. Track B meets the needs of those seeking certification in Massachusetts.

Degree Requirements

The Track A Program: Thirty-three credits are required for the completion of the MEd. These credits are distributed as follows:

1. All students take the following core courses (for a total of 12 credits):

   CCT 601 (Critical Thinking)*

   CCT 602 (Creative Thinking)*

   CCT 620 (Moral Education)*

   Educ 610 (Computers in Education)

*For a full description of this course, see the Creative and Critical Thinking section of this publication.

2. Students consult with advisors to assist in planning elective courses to suit their individual interests (total: 18 credits).
3. Students take a practicum at either the elementary or the secondary level (3 credits).

Students must also take a final comprehensive examination covering a significant portion of their course work.

The Track B (Certification) Program: Thirty-six credits are required for the completion of the MEd. These credits are distributed as follows:

1. All students take the following core courses for a total of 18 credits:

   CCT 601 (Critical Thinking)*

   CCT 602 (Creative Thinking)*

   Educ 610 (Computers in Education)

   Educ 642 (Organization of School Curriculum)

   Educ 644 (Developmental Patterns in School Age Children)

   Educ 698 (Graduate Practicum)

2. In addition, those seeking certification at the elementary or early childhood level must take: ElmEd 308 (Inquiry, Discovery, Health, and Measurement I: Science and Health)

   Educ 616 (Applied Research in Mathematics)

   Educ 617 (Applied Research in the Language Arts)

   Educ 618 (Designing Instruction: Social Studies)

   Educ 620 (Designing Instruction: The Arts)

3. In addition, those students seeking certification at the secondary level must have completed all the field of knowledge requirements and take the following courses:

   Educ 605 (Education: Sociocultural Perspectives)

   Rdg 640 (Reading in the Content Areas)**

   Educ 641 (Contemporary Issues in Education)

   Educ 660 (Designing Instruction: Secondary Education: Special Subjects)

   One graduate elective

* For a full description of this course, see the Critical and Creative Thinking Section of this publication.

** For a full description of this course, see the Reading section of this publication.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The Education Program will recommend admission for those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will normally include:

1. A distinguished undergraduate transcript.
2. Evidence of satisfactory grades in the major discipline (secondary education track candidates).
3. Three positive and informed letters of recommendation submitted by persons who are knowledgeable about the candidate. In the case of track A students, at least one of these letters should be from a person who serves, or has served, in a supervisory capacity to the candidate.
4. Documentation of two or more years of successful teaching experience, or its equivalent (for Track A students).
5. Submission of Graduate Record Examination (GRE) or Miller Analogies Test (MAT) Scores.

Transfer Credit

Students interested in becoming candidates for the degree must matriculate before their third graduate course. They may transfer up to six hours of course credit.

Educ 605
Education: Sociocultural Perspectives
Staff
Educational organizations are viewed through the broader context of the sociocultural order. Considerable emphasis is placed on the origins and nature of our cultural value system and the manner in which it molds and shapes our educational institutions.
3 Lect Hrs, 3 Credits

Educ 610
Computers in Education
Staff
Introduction to how microcomputers work, including some "hands on experience" for both beginners and students with some experience in the use of microcomputers. This course will contain a selected survey of current CAI computer literacy programs at the elementary and secondary levels, and of currently available educational software for microcomputers. Participants will also explore the pedagogical issues raised by the use of microcomputers for students, teachers, and school administrators: consequences for learning, problem solving, organizing data, creativity, etc. Field research may necessitate access to a microcomputer in a school setting.
3 Lect Hrs, additional fieldwork
Hrs by arrangement, 3 Credits

Educ 612
Evaluation and Design of Educational Software
Staff
This course is designed to acquaint participants with techniques for evaluating various kinds of educational software, with the process of software design, and with the use of an authoring language.
Prerequisite: Educ 610.
3 Lect Hrs, 3 Credits

Education (Elementary and Secondary)

Educ 614
Interactive Video Instruction
Staff
This course examines the process of developing and producing interactive video programs, using computers and video tape, for instructional purposes. Special attention is given to the study of interactive design principles and the evaluation of interactive video.
3 Lect Hrs, 3 Credits

Educ 616
Applied Research in Mathematics
Ms Phelan, Ms Signer
This course focuses on materials, curriculum, and techniques in the teaching of mathematics. Participants conduct research in mathematics curricula, and apply their findings to curriculum design and teaching.
3 Lect Hrs, 3 Credits

Educ 617
Applied Research in the Language Arts
Ms Phelan
This course is a comprehensive review of research on materials, curriculum, and teaching techniques in all the areas of language arts: reading, writing, speaking, and listening. Participants conduct research in language arts curricula, and apply their findings to integrated curriculum design and to teaching.
3 Lect Hrs, 3 Credits

Educ 618
Designing Instruction: Social Studies
Ms Gould, Mr McCarthy
This course examines ideas, materials, and methods current in the teaching of social studies. Participants review texts, design materials for classroom units, and develop teaching strategies. Emphasis is also placed on techniques for individualizing instruction.
3 Lect Hrs, 3 Credits

Educ 620
Designing Instruction: the Arts
Staff
A modular approach to the visual arts, physical education, and music. Specialists in these areas will teach each module.
3 Lect Hrs, 3 Credits

Educ 636
Individually Guided Education
Staff
This course stresses the adaptation of various instructional methods to individual differences, and the continuous improvement of such instruction. The course examines new forms of behavior for teachers, various learning options for students based on their mapped cognitive learning styles and a revised form of school organization and administration.
3 Lect Hrs, 3 Credits

Educ 641
Contemporary Issues in Education
Staff
This course will analyze contemporary problems that affect issues in education. The principal focus will be on such issues as: goals, fiscal responsibility, structure and operation of public and private education at local, state and federal levels, race relations and busing.
3 Lect Hrs, 3 Credits

Educ 642
Organization of School Curriculum
Staff
This course analyzes the development of elementary, middle, and secondary school curriculum, examining curriculum models at each of the three levels in light of current pedagogy. Participants become familiar with curriculum development sources and materials, and discuss the influence of parents, administrators, and the community in developing, implementing, and evaluating curriculum.
Prerequisite: Graduate standing.
3 Lect Hrs, 3 Credits

Educ 643
Behavior and Classroom Management
Staff
This course explores a diverse range of strategies and techniques that may be used to eliminate or alleviate dysfunctional and/or disruptive behavior in the contemporary mainstreamed classroom.
3 Lect Hrs, 3 Credits

Educ 644
Developmental Patterns in School Age Children
Staff
This course explores child development with major emphasis on the cognitive, psychological, and affective development of the child and its bearing on the teaching/learning process.
3 Lect Hrs, 3 Credits

Educ 660
Designing Instruction: Secondary Education Special Subjects
Staff
This course examines ideas, materials, and methods current in the teaching of special subjects at the middle and secondary school levels. Participants review texts, design materials for classroom units, and develop teaching strategies. A substantial part of the course is field-based.
3 Lect Hrs, 3 Credits

Educ 670
Internship in Education
Staff
Internship participants work with children at a school, in small and large groups and on an individual basis, to apply their practical and theoretical knowledge. Interns plan lessons, teach classes, and evaluate students. They also review student records; apply their knowledge of curriculum by selecting materials and designing learning activities; and draw on current ideas and research to develop and demonstrate their own classroom teaching. Interns also meet regularly to share their research and experience on a variety of topics.
Prerequisite: Permission of graduate program director and field placement officer.
3 Lect Hrs, 3 Credits

Educ 696
Independent Study
Staff
This course involves the comprehensive study of a particular topic or area of literature determined by the student's need; the study is pursued under the guidance, and subject to the examination, of the instructor. An application or outline of study should be submitted to the instructor by the end of the semester previous to that in which Educ 696 is to be taken.
3 Lect Hrs, 3 Credits

Educ 697
Special Topics in Education
Staff
This advanced course will offer intensive study of selected topics in the field of education. The course content and credit will vary according to the topic and will be announced during the advance registration period.
3-6 Lect Hrs, 3-6 Credits

Educ 698a
Graduate Practicum: Student Teaching (Early Childhood Education)
This course provides students with the opportunity to put theory and technique into practice, at the level of their specialization. They demonstrate their skills in a school, with supervision by both a certified teacher and a member of the program's faculty. Note: While the practicum is designed for students seeking certification (those enrolled in Track B), it is also open to non-certification matriculated students (those in Track A) with the permission of the graduate program director.
6 Lect Hrs, 6 Credits

The following courses have the same course description as Educ 698a:

Educ 698b
Graduate Practicum: Student Teaching (Elementary Education)

Educ 698d
Graduate Practicum: Student Teaching (Secondary Education)

Educational Administration

Faculty

Richard K Chrystal, EdD, *Boston University,* Curriculum: Theory, Development, and Evaluation, Principalship

Frederick C Gamst, PhD, *University of California at Berkeley,* Social Dynamics in Organizations

Joanne M Gurry, EdD, *Boston University,* Curriculum: Theory, Development, and Evaluation

Richard A Hogarty, PhD, *Princeton University,* Politics and the Educational Process

Jean MacCormack, EdD, *University of Massachusetts at Amherst,* Community Relations

Jane R Martin, PhD, *Harvard University,* Philosophical Foundations of Education

Charles F McCarthy, EdD, *Boston University,* Organizational Analysis, Organizational Change

John F Monbouquette, PhD, *Boston College,* Labor Relations and Collective Bargaining, Facility Design and Fiscal Management

Jean Phelan, EdD, *Boston University,* Research Design, Curriculum: Theories, Development and Evaluation, Leadership Development

R Timothy Sieber, PhD, *New York University,* Sociocultural Foundations of Education

The Program

The MEd Program in Educational Administration is designed for educators who aspire to mid-level administrative or supervisory positions in schools or related institutions. For those who plan to prepare for top-level positions in educational administration, the program serves as a foundation for further graduate study.

All students in the program enroll in a group of core courses providing a comprehensive view of educational administration and in a practicum involving supervised work in the field. Each student also chooses, in consultation with his or her advisor, additional courses appropriate to an area of specialization. The program offers courses in both the Principalship and Supervisor/Director areas of specialization.

Degree Requirements

1. A minimum total of thirty-six graduate credits is required to complete this program. Courses are generally offered to accommodate the educational practitioner, in the late afternoon and evening, and during the summer months.
2. All students are required to take a core of courses.
3. A practicum or internship in educational administration is required of all students.
4. All students must pass a final comprehensive examination covering a significant portion of their course work.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The Educational Administration Program will recommend admission for those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will normally include:

1. A distinguished undergraduate transcript with, for the most part, an average of at least 3.0 in undergraduate education courses.
2. Three letters of recommendation from people familiar with the applicant's leadership ability and/or potential.
3. Documentation of two or more years of full time teaching as a certified teacher at grade levels K-12.
4. Documentation of state teaching certificate.
5. Submission of the Graduate Record Examination (GRE) or the Miller Analogies Test (MAT) scores.
6. A sufficient academic background in education courses. The applicant may be asked to take undergraduate courses in education if course transcripts indicate deficiencies in certain areas.
7. An interview with the program director.

The Certificate of Advanced Graduate Study in Educational Administration (CAGS)

The CAGS Program in Educational Administration builds on the administrative/supervisory theory, processes, and skills that form the basis of the MEd Program in Educational Administration. The central focus of this program is the human variable in all of its diverse complexity, as it is generally perceived that a sound understanding and appreciation of this variable lies at the heart of success in any organizational leadership capacity.

Accordingly, the core of required courses for this program has as its central theme the nature of the human variable, and what such knowledge implies for those who aspire to leadership positions in educational organizations.

In conjunction with the group of required courses that form the core of this program, the student will select appropriate elective courses in keeping with his or her area of specialization, needs, and interests.

Certificate Requirements

The applicant for the CAGS will be expected to hold a Master's degree in Educational Administration from a nationally accredited institution; the applicant will also be expected to meet all of the admissions requirements for the MEd program.

A minimum of thirty-six graduate credits is required to complete this program. Courses are generally offered to accommodate the educational practitioner, in the late afternoon and evening, and during the summer months.

A core of courses forms the nucleus of this program and is required of all students.

A practicum or internship in an educational administrative field experience is required of all students. This requirement may be waived by the Graduate Program Director if the applicant submits written documentation that he or she has completed a similar practicum of the same duration or longer as part of the Master's Degree in Educational Administration Program. If the practicum requirement is waived, the applicant will be required to take two elective courses in the program after consultation with his/her advisor.

All students must pass a comprehensive examination.

Courses in the Educational Administration Program are open to graduate students only.

Adm 601
Organizational Analysis
Staff
This is the first general specialization course for students in the graduate degree program in Educational Administration. It examines a selected number of the most important concepts that comprise organizational theory and relates them to the structure and operational management of educational institutions. Some field experience is involved.
3 Lect Hrs, 3 Credits

Adm 603
Organizational Change
Staff
Principles and practices drawn from behavioral science theory are employed as means of studying the processes of change and renewal in educational organizations.
3 Lect Hrs, 3 Credits

Educational Administration

Adm 604
Philosophical Foundations of Education
Staff
This course draws its readings from the works of both contemporary and historical philosophers of education. Topics include the relationship of schools to their society; the distinction between schooling and education; differing conceptions of the term "school;" the content and adequacy of such educational goals as rationality, autonomy, and critical thinking; the nature and structure of liberal and vocational curricula; the place of values in education; and the nature of teaching and learning.
3 Lect Hrs, 3 Credits

Educ 605
Education: Sociocultural Perspectives
Staff
Educational organizations are viewed through the broader context of the sociocultural order. Considerable emphasis is placed on the origins and nature of our cultural value system and the manner in which it molds and shapes our educational institutions.
3 Lect Hrs, 3 Credits

Adm 610
Research Design
Staff
This course introduces quantitative and qualitative methods of research in educational administration: basic concepts of statistics, data analysis, observation and inquiry, and interview and questionnaire design.
3 Lect Hrs, 3 Credits

Adm 613
Personnel: Administration, Supervision, and Evaluation
Staff
In view of the special needs of, and constraints on, the supervision of personnel within school systems, this course will examine departmental and administrative fiats that affect the supervisory process, and techniques of supervision that can assist in the creation of improved teaching-learning climates in the classrooms. Relevant aspects of school law will also be examined. Some field experience is involved.
3 Lect Hrs, 3 Credits

Adm 621
Curriculum: Theories, Development and Evaluation
Staff
Elementary, middle, and secondary curriculum development will be examined. Current curricula in various school systems will be analyzed. Participants will focus on present and future sociocultural forces in devising creative approaches to curriculum patterns and offerings.
3 Lect Hrs, 3 Credits

Adm 622
Curriculum: Status, Issues, and Trends
Staff
This course examines the reform movement of twentieth century American education, and the impact of this movement on subject matter content areas of the curriculum.
3 Lect Hrs, 3 Credits

Adm 624
The Principalship
Staff
An examination of contemporary administrative theory and practice essential to the effective organization and management of a school. Legal issues relevant to school operations will also be explored.
3 Lect Hrs, 3 Credits

Adm 627
The Law of Public Education
Staff
Current legal concepts and practices which concern the rights, liabilities, duties, and responsibilities of all personnel employed by public schools and school systems will be explored. Particular attention will be given to these matters as they pertain to those who are, or aspire to be, administrators or supervisors.
3 Lect Hrs, 3 Credits

Adm 631
Microcomputers for School Administrators
Staff
This course provides a general introduction to computers and their applicability to school and school systems operation. Appropriate software will be demonstrated and students will have opportunities to gain practical experience in the operation of microcomputers.
3 Lect Hrs, 3 Credits

Adm 632
Facility Design and Fiscal Management
Staff
This course explores three related areas. The first is the process of design, construction, and equipping of school facilities to meet the needs of a given community. Second, the course focuses on topics related to fiscal management: strategic planning, analysis of resources, and developing a budget through an integrated approach to school management. Finally, the course examines legal issues pertaining to facility and fiscal concerns.
3 Lect Hrs, 3 Credits

Educ 641
Contemporary Issues in Education
Staff
This course analyzes contemporary problems that affect issues in education. The principal focus is on such issues as: goals, fiscal responsibility, structure and operation of public and private education at local, state and federal levels, race relations and busing.
3 Lect Hrs, 3 Credits

Educ 643
Behavior and Classroom Management
Staff
This course explores a diverse range of strategies and techniques that may be used to eliminate or alleviate dysfunctional and/or disruptive behavior in the contemporary mainstreamed classroom.
3 Lect Hrs, 3 Credits

Adm 646
Leadership Development
Staff
Concepts drawn from the behavioral sciences are used as a basis for leadership skill development. Participants will engage in a series of leadership strategies in simulated situations which will enable them to better understand, predict and modify their own behavior and that of others in organizational settings.
3 Lect Hrs, 3 Credits

Educational Administration

Adm 648
Labor Relations and Collective Bargaining
Staff
This course is an in-depth study of the Massachusetts statute regulating labor relations of public employees in collective bargaining. Students learn about the application of this law through the use of case studies and through role playing as management and employee representatives in the negotiating process.
3 Lect Hrs, 3 Credits

Adm 651
Community Relations
Staff
This course focuses on how schools and school systems may develop strong, positive relationships with the communities they serve, through such efforts as team building, developing consensus, establishing coalitions and group problem solving.
3 Lect Hrs, 3 Credits

Adm 652
Social Dynamics in Organizations
Staff
An examination of human performance with reference to the social dynamics of groups in their organizational settings. The course focuses on such theoretical and practical topics as group structures, bureaucracy and its web of rules, human relations and human resources, the individual in the organization, consensus and conflict, leadership, communication, discipline, decision-making, motivation, meetings, employee participation, and selected special issues.
3 Lect Hrs, 3 Credits

Adm 653
Politics and the Educative Process
Staff
This course views education as public policy delivered through and carried out by political organizations. Consideration is also given to the environment in which such organizations operate.
3 Lect Hrs, 3 Credits

Adm 654
Advanced Seminar in Administration
Staff
Through group discussions, this course explores the major features of the major issues facing school systems today and the implications of these issues for individuals in school leadership roles.
3 Lect Hrs, 3 Credits

Adm 655
Advanced Seminar in Supervision
Staff
Both traditional and contemporary practices of supervising teachers and related support staff in educational settings are examined in the light of extremely austere municipal budgets, collective bargaining positions, legal rights and other such factors generally perceived as playing significant roles in the supervisory process.
3 Lect Hrs, 3 Credits

Adm 656
Urban Education Seminar
Staff
Some of the many problems now plaguing our urban schools are studied. Special attention is given to those urban schools that have had a noteworthy degree of success in addressing and resolving these problems.
3 Lect Hrs, 3 Credits

Adm 660
Effective Schooling
Staff
An examination of the research findings and personal reflections of noted educators on the determinants of effective schooling. Particular emphasis is placed on the pivotal role of school administrators and supervisors in the development and maintenance of effective schools.
3 Lect Hrs, 3 Credits

Adm 696
Research Project
Staff
In close consultation with a staff member a student will undertake a research project treating an actual problem or concern in an educational institution.
3 Credits

Adm 697
Special Topics in Educational Administration
Staff
An advanced course offering intensive study of selected topics in educational administration. Course content will vary according to the topic and will be announced prior to registration.
3-6 Lect Hrs, 3-6 Credits

Adm 698
Practicum in Educational Administration
Staff
A laboratory course providing practical experience in some phase of educational administration. The practicum is reserved for students who can assume duties on a full time basis. Seminars will be devoted to relevant issues and concerns in the area.
3 Lect Hrs, 3 Credits

Adm 699a
Internship I: Educational Administration
Staff
A laboratory course providing practical experience in educational administration totaling 150 hours on site, and related seminars at the university. While the equivalent practicum experience (Adm 698) is for students in a position to assume administrative/supervisory duties and responsibilities on a full-time intensive basis, this course is designed for part-time students who are able to devote ten hours per week over a span of 15 weeks to such duties and responsibilities. It also involves seminars at the university. Adm 699b (Internship II), similarly designed for part-time students, must be completed no later than two years after Internship I.
3 Lect Hrs, 3 Credits

Adm 699b
Internship II: Educational Administration
Staff
A continuation of Adm 699a, which must be taken within two years of completing Adm 699a.
Prerequisite: Adm 699a.
3 Lect Hrs, 3 Credits

English

Faculty

Pamela Annas, PhD, *Indiana University,* Working Class Literature, Literary Modernism, Writing for Women

Ann Berthoff, MA, *Radcliffe College,* Philosophy and Teaching of Composition, Literary Theory

Joel Blair, PhD, *Harvard University,* Satire, 18th Century Literature

John Brereton, PhD, *Rutgers University,* Composition Theory, 18th Century British Literature

James Broderick, PhD, *Harvard University,* Victorian and Romantic Literature

Neal Bruss, PhD, *University of Michigan,* Linguistics, History of English

Martha Collins, PhD, *University of Iowa,* Modern Poetry, Creative Writing

Robert Crossley, PhD, *University of Virginia,* Fantasy and Utopia, Science Fiction

Linda Dittmar, PhD, *Stanford University,* Experimental Fiction, Film

Albert Divver, PhD, *University of Michigan*, Critical Theory

Elizabeth Fay, PhD, *State University of New York at Stony Brook,* Romantic and Victorian Literature

Edwin Gittleman, PhD, *Columbia University,* Colonial and 19th Century American Literature

Leland Grove, PhD, *Harvard University,* Modern American Literature

Francis R Hart, PhD, *Harvard University,* Biography and Autobiography, British Romanticism, Teaching of Literature

Alan Helms, PhD, *Rutgers University,* American Poetry, Modern Poetry

Susan Horton, PhD, *Brandeis University,* Literary Theory, Dickens, Writing About Literature

Seymour Katz, PhD, *Harvard University,* American Romanticism and Realism, American Civilization

Charles Knight, PhD, *University of Pennsylvania,* British Fiction, Periodical Literature

Eleanor Kutz, PhD, *Indiana University*, Composition Theory, Medieval Literature

Richard Lyons, PhD, *Princeton University*, British and American Fiction

Margaret Mansfield, PhD, *Cornell University,* Medieval Literature, History of the English Language, Professional Writing

Monica McAlpine, PhD, *University of Rochester,* Chaucer, Medieval Literature

Charles Meyer, PhD, *University of Wisconsin*, Linguistics, History of English

Shaun O'Connell, PhD, *University of Massachusetts*, Modern Fiction, Irish Literature

Thomas O'Grady, PhD, *Notre Dame University,* Irish Literature

Vincent Petronella, PhD, *University of Massachusetts,* Renaissance Literature

Elaine Pugh, PhD, *Ohio State University,* American Realist and Non-Traditional Literature

Hephzibah Roskelly, PhD, *University of Louisville*, Composition, Critical Theory

Lois Rudnick, PhD, *Brown University,* American Civilization, Immigrant Literature, Twain

Pancho Savery, PhD, *Cornell University,* Modern Drama, Black American Literature, Lawrence

Ron Schreiber, PhD, *Columbia University,* Modern Poetry, Visionary and Prophetic Literature, Gay Literature

Lloyd Schwartz, PhD, *Harvard University*, Poetry

Mary Shaner, PhD, *University of Illinois*, Medieval Literature, Children's Literature

George Slover, PhD, *Indiana University,* Shakespeare, Early Drama

George Smith, PhD, *University of Virginia,* Milton, Shakespeare, Computational Linguistics

Louise Smith, PhD, *University of Virginia,* Expository Writing, British Romanticism

Taylor Stoehr, PhD, *University of California at Berkeley,* Biography, American Literature

John Tobin, PhD, *University of Toronto,* Renaissance Literature, Shakespeare

Elaine Upton, PhD, *Ohio State University,* American Literature

Mary Helen Washington, PhD, *University of Detroit,* Images of Women in Literature, Black Women Writers

Frederick Willey, PhD, *Harvard University,* Teaching of Poetry, The Novel

The Program

One of the oldest graduate programs at UMass/Boston, the program leading to the Master of Arts degree in English continues to grow in enrollment, diversity and reputation. Graduate students from many states and several foreign countries are currently enrolled. Some are teachers in secondary schools and two-year colleges; some are writers; some are preparing for doctoral study; some are older people with careers and families who love the study of literature and writing. Matriculated students enroll for the degree; non-degree-seeking students may be admitted for specific courses.

The degree can be completed in a year of full-time study, but many current students are part-time. Fourteen to sixteen different graduate seminars are offered each year. All are small (fewer than 15 students), and scheduled for late day hours, once a week, to accommodate students' work commitments. The atmosphere is informal and non-competitive, and individual academic programs can be flexibly arranged, to fit personal priorities.

Students may choose between two concentrations: one in literature, and one in composition. The concentrations are designed to overlap, so that all students may take some courses in both. Each semester's offering includes at least five seminars with an emphasis on literature and at least three with an emphasis on composition. Seminars on the "literary" side include major periods, genres, modes, authors (British, American and Irish); literary theory and criticism; and special topics in ethnic literatures, literature and society, and the teaching of literature. Seminars in composition include Philosophy and the Composing Process (required of composition concentrators); Practical Writing; The Teaching of Composition; Writing, the Media, and Popular Culture; Writing for the Public (professional writing); and Life-Writing. Overlapping courses include Writing About Literature, History of the English Language, and Linguistics. MA students may also choose to do work in the Certificate Program in Creative Writing, and some complete both the MA and the Certificate Program (a total of approximately nine courses).

Degree Requirements

Requirements for the MA degree in English include the satisfactory completion of 30 credits of approved course work, completion of the language requirement (unless waived), and completion of a final exercise or project.

The 30 credits may be earned in graduate English seminars (at least five are required), in the Graduate English Colloquium (English 609), in the Final Exercise or Project Workshop (English 679 or 699), or in Independent Study (English 696). Some courses at the advanced undergraduate level (including Creative Writing) or in a related field may also be approved (must be arranged in advance).

Composition concentrators are required to take English 679 and four other seminars related to composition. Literature concentrators are required to take five courses emphasizing literature or language, but these may include the "overlap" courses. There are no specific courses required, but English 617 or English 600 is recommended.

English

By petition, up to 6 graduate credits may be transferred from another institution. Up to two courses taken at the University of Massachusetts at Boston as a special student prior to degree matriculation may also be counted later toward the degree. Up to two courses taken at the University of Massachusetts at Boston while still a graduating senior may also be counted, but only if the credits were beyond the number required and taken for the BA degree. No course credits may count toward more than one degree.

The MA candidate in English who intends to proceed to a PhD program must demonstrate a reading knowledge of one foreign language, ancient or modern. This competency may be demonstrated by achieving a score of at least 575 on the ETS Graduate School Foreign Language Test, or by achieving a grade of at least B in an advanced undergraduate course in the language (300 or 400 level).

Students for whom English is not the native language may petition to have their proficiencies in their native languages count as satisfying this requirement. Students whose careers and plans exclude the possibility of proceeding to a PhD program may petition the English Graduate Committee for a waiver of this requirement.

The final exercise or project is intended to provide culminating evidence of the graduate student's mastery of subject matter and methodology, either in a long paper or project report, or in a comprehensive 3-hour written examination. Concentrators in composition will undertake an appropriate research project in and through English 679. Concentrators in literature may, if they wish, carry on preparation for a final paper or examination through English 699, earning three credits. The literature concentrator may choose one of three final paper or examination options. Under Option A, the student submits a long paper (critical, interpretive, or pedagogical) of at least 20 pages, with the written approval of a faculty supervisor. The paper may be based on a course paper, should deal with a substantial body of material (primary and secondary), should open with a preface addressed to a general academic reader explaining the significance or value of the project, and should close with an annotated bibliography of works used. Under Option B, the student negotiates with the English Graduate Committee a list of ten or more texts representing a topic in English or American Literature proposed by the student, and arranges a date for the written essay examination based on that list. Under Option C, the student arranges to take a comparable exam based upon a reading list of major texts prepared by the English Graduate Committee. (Option C should be especially suitable for teachers who expect to teach general literature courses.) Plans for the completion of this requirement must be made and approved in writing no later than the beginning of the semester at the close of which the student expects to receive the degree.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The English Graduate Committee will recommend full admission to those applicants who present evidence of their ability and their preparation to do graduate work with distinction. Such evidence must include:

1. A distinguished undergraduate transcript with, normally, an average of at least 3.0 in undergraduate English courses. (An undergraduate major in English is preferred, but some of our successful applicants have majored in other fields while completing additional advanced course work—at least six courses—in English and American literature and in writing. Occasionally the Committee recommends additional undergraduate course work prior to full admission.)
2. Substantive and detailed recommendations from former teachers familiar with the applicant's most recent academic work.
3. An essay of at least 1200 words, as specified on the Graduate Admissions Application, by the applicant concerning his or her intellectual, professional and personal reasons for desiring to pursue the advanced study of English. The essay should give some specific account of the applicant's past studies and projects, and an explanation of the applicant's major fields or subjects of interest in the field. The essay is of major importance and is evaluated as a demonstration of ability in writing and thinking about literary issues. (Samples of past writing are sometimes requested.)
4. Graduate Record Examination (GRE) scores, (Verbal, Quantitative, and Literature in English) are not required but are recommended, especially in cases where the undergraduate record is unusual or uneven.

Students who appear not quite to meet the above requirements are occasionally offered provisional admission, allowed to enroll in a course or two for a semester, and then reviewed for full admission. Such students may also be allowed to enroll on a trial basis as non-degree-seeking students.

The department encourages applications from in-service secondary English teachers.

Graduate Assistantships in teaching or tutoring or research or program administration are available. For information before applying, contact the program director.

Courses

Graduate courses in English are open to regularly matriculated MA candidates in English, with the approval of the student's advisor, and to others (graduate students in other programs, special students, and qualified seniors) with approval of the Graduate Program Director in English. English graduate seminars award 4 credits, 3 for the work done in connection with the weekly seminar, and 1 for the related tutorials held by arrangement with the seminar instructor. For exceptions, see English 609, 679, 696, and 699. Seven or eight different seminars drawn from the following list are scheduled for each semester, and new courses now under development will shortly be added. For semi-annual departmental publications on current offerings, write to the Graduate Program Director, Department of English.

Engl 600
Studies in Criticism
Mr Bruss
Study of the nature and function of literature, the terms and methods of analysis and evaluation of literature, and the various approaches possible in the criticism of literature.
4 Credits

Engl 601
Studies in Poetry
Ms Collins
This course will approach poetry from a number of angles, including—and emphasizing—the writing of it. Experienced poets are encouraged to enroll, but *students need not have written poetry before:* the point of the course will be to learn more about how poetry "works" by experimenting with the techniques used by poets we read and discuss in class. To this end, a large portion of the course will focus on matters of form; there will also be units on diction, image/metaphor/symbol, narrative poetry, "political" poetry, and other topics. Historical discussion of some of these subjects will occur from time to time. While all students will be required to write some poetry for the course, no one will be penalized for an inherent lack of poetic talent. Some assignments will offer a choice between a poetic and a critical response to a topic, and the final project for the course may be either a long critical paper or a substantial collection of poems written and revised during the semester.
4 Credits

Engl 602
Studies in the Novel
Ms Annas, Mr Knight
Studies in the nature of prose fiction and its major kinds; special topics in the history and sociology of narrative fiction, such as the working class novel, the short story, the prose romance, the historical novel; and studies of representative British and American types in international contexts.
4 Credits

English

Engl 603
Studies in Drama
Mr Savery
A course for those who want a broad view of the sweep of Western drama, offering a study of the art of drama as it has evolved from classical Greece. Representative plays are drawn from various periods (Medieval, Renaissance, Augustan, Romantic, and Modern) and from the major modes (tragedy, comedy, farce, realism, expressionism, and the absurdist and social theatre). Selected critical works are also considered.
4 Credits

Engl 604
Studies in Satire
Mr Blair
An exploration of individual works of satire and critical theories about the mode: pre-modern and modern selections from Swift, Pope, Shaw, Waugh, F O'Connor, N West, Eliot and others.
4 Credits

Engl 609
Graduate English Colloquium
Staff
This course meets in public evening colloquia every third week throughout the year and in tutorials during intervening weeks. Colloquia and tutorials are led by members of the graduate faculty, and will concern major texts of English and American Literature. The course will increase familiarity with a variety of forms and periods, introduce problems of literary history, and demonstrate various current approaches to advanced literary study. Texts are selected annually by the graduate faculty and approved by the graduate committee. The course may be taken in either semester sequence, beginning in fall or spring. It yields three credits for the year, grades to be determined by assigned faculty tutors, in consultation with the colloquium coordinator.
Prerequisite: Admission as a regular MA candidate.
3 Credits

Engl 610
The Teaching of Composition
Ms Roskelly, Ms Smith
This course will define the role of composition in the English curriculum in both college and secondary schools; develop a philosophy of language as a foundation for a method of composing; study psychological and linguistic aspects of the composing process.
4 Credits

Engl 611
The Teaching of Literature
Mr Hart, Mr Crossley
A seminar and workshop in theories and strategies of the teaching of literature in school and college. The class observes and analyzes sample presentations involving different literary kinds, and evaluates them in the context of the aims of liberal education. The course serves teachers, prospective teachers, and non-teachers who seek an introduction to literature from pedagogical points of view.
4 Credits

Engl 612
The Teaching of Shakespeare
Staff
This course combines intensive study of a few selected plays and poems with approaches to the teaching of Shakespeare, approaches which emphasize the speaking, hearing and acting of text and which address the linguistic and cultural obstacles to reading a sixteenth century British writer. Portions of the course will be devoted to workshops affording opportunities to practice these approaches and to see them practiced.
4 Credits

Engl 613
The Teaching of Poetry
Mr Willey, Ms Collins
Designed for graduate students who want an advanced introductory course, or a refresher course, in the reading and comprehension of poetry, perhaps with the object of teaching it to younger minds. Emphasis on practical criticism, or close reading, but various perspectives and critical approaches are included, along with teaching aids and pedagogical exercises. Concentration on poets of the 19th and 20th centuries.
4 Credits

Engl 614
The Teaching of Fantasy and Science Fiction
Ms Annas, Mr Crossley
The seminar examines major works of unrealistic fiction, and some important critical and theoretical approaches to it, as a way of raising and defining questions about teaching literature. The course is intended for those who wish to explore the reading of such fiction and for those engaged in high school teaching and interested in developing appropriate curricula and pedagogies.
4 Credits

Engl 615
Style and the Popular Essay
Staff
An in-depth study of selected contemporary, commercial essayists as stylists, working in numerous genres within the one genre (i.e. the humorous essay, the travel essay, the personal essay, the philosophical essay); and an intensive writing workshop in which students write comparable essays and critique them in class. Topics and readings very each year. Students write a short, publishable essay every two weeks.
4 Credits

Engl 616
Practical Writing
Mr Brereton
This seminar invites all serious writers of varying backgrounds to practice writing expository prose on general topics of their choice. Theoretical analysis of discourse, of language, and of composing processes provides the framework for each individual's development. The seminar addresses such topics as generating and forming ideas, organizing and clarifying the logical relations among parts, balancing assertion and evidence, choosing and changing style and tone, and practicing revision and editing. Members write constantly in and out of class, read their compositions aloud in class and receive written and oral responses, and meet often for individual and small group conferences with instructor.
4 Credits

Engl 617
Writing About Literature
Ms Horton
This is a course in the writing of literary criticism. Students will read one major work of fiction and one small body of poems (perhaps Shakespeare's sonnets) in this course, and become familiar with as much of the major criticism written on these works as possible. They will read historical critics, generic critics, psychoanalytic critics, structuralists, feminists, and the like. They will write 8 papers (4 drafts and 4 revisions) in which they attempt to produce the kinds of literary criticism the various modes of criticism make possible.
4 Credits

English

Engl 618
Life Writing
Mr Hart, Mr Gittleman
This is a course for readers and writers of biographical forms, including autobiography. Course offerings may differ in emphasis from time to time. The course will sometimes focus on major works of autobiography, such as Franklin, Rousseau, Adams, Wright, Hellman, and Kingston. At other times the focus will be on major biographies in English, from More and Roper, through Walton and Boswell, to moderns such as Strachey, Woodham-Smith, Edel, and Ellman. Other offerings will focus on a few historic personalities such as Socrates, Joan, Johnson, and Gandhi, through comparative analysis of biographical materials. Substantial practice in life writing.
4 Credits

Engl 619
Writing For The Public
Mr Brereton
This course differs from traditional technical writing courses in that it does not stress industrial engineering writing tasks but provides students with resources to describe and evaluate writing in non-academic settings. Aside from providing practical experience in writing in the workplace, the course introduces students to ethnographic approaches to composition research. Students will visit organizations where people write for the public to conduct inquiries that will help them answer such questions as: What kinds of literacy demands are made on workers? How do workers perceive themselves as learners and writers? What kinds of writing technologies do writers use? Students will prepare working papers describing their findings and procedures, rewriting actual documents, and reflecting on underlying theories.
4 Credits

Engl 620
History of the English Language
Mr Bruss, Mr Meyer
Description and analysis of modern English from a linguistic perspective; attention to the relationship of linguistic analysis to literature. A survey of Old English, Middle English, early Modern and 18th century English, with its stress on traditional grammar.
4 Credits

Engl 621
Introduction to Linguistics
Mr Bruss, Ms Kutz, Mr Meyer
The course will raise the question of the relationship between language and thought, and will survey the application of linguistics to the study of literature, the analysis and teaching of syntax and grammar, and the fields of psychology, sociology, and biology.
4 Credits

Engl 622
Stylistics
Ms Horton
A study of the connection between linguistics and literature. An effort in turning linguistic information into strategies useful for interpreting novels, for describing how novels and poems get put together, for helping us learn how meaning gets made in a literary text, for talking about how a reader's responses to a text get generated out of the particular stylistic/linguistic choices a writer makes.
4 Credits

Engl 623
The Nature of Narrative
Ms Dittmar
This course explores a variety of ways in which modern and contemporary fiction, both English and European, departs from traditional narrative forms. While a comparative study of experimentation will be our main concern, we may address philosophical, political, and psychological issues as they affect narrative form in the twentieth century.
4 Credits

Engl 630
Chaucer
Ms McAlpine, Ms Shaner
A study of Chaucer's major works in Middle English. Special attention to such considerations as Chaucer's poetic development, his relations to his sources, medieval literary theory, and the social, political, and religious backgrounds.
4 Credits

Engl 631
Medieval to Renaissance Literature
Ms Shaner, Ms McAlpine
A course in the transition from Medieval to Renaissance literature. A study of the transition in prose from homiletic writings and the romances through Elyot, Ascham, and Lyly; in lyric and narrative verse from Chaucer and the Scottish Chaucerians through Sidney; and in drama from the morality and mystery plays through *Hamlet.*
4 Credits

Engl 632
Early English Drama
Mr Petronella
A study of the development of form—particularly the forms of comedy and tragedy—in the drama of Shakespeare's predecessors and contemporaries. Readings of selected mystery and morality plays and of works by such playwrights as Marlowe, Kyd, Marston, Tourneur, Webster, Greene, Dekker, Jonson, Beaumont and Fletcher. One play of each kind by Shakespeare.
4 Credits

Engl 633
Shakespeare
Mr Petronella, Mr Slover, Mr Tobin
Consideration of Shakespeare's dramatic art as an art of coaching an audience (and readers) in how to respond to and understand his make-believes. Multiple plotting, recurring situation, contrasts and parallels in character and character relations (especially the use of theatricalizing characters who stage plays within the play), patterns of figurative language, repetition of visual effects—these and other such "structures" will be considered as means whereby Shakespeare coaxes and coaches the perception of his audience, shapes the participation of mind and feeling, and, especially, prepares audiences for comic or tragic outcomes.
4 Credits

Engl 634
Elizabethan and Jacobean Literature
Mr Petronella, Mr Smith
The seminar will focus attention on a select number of English Renaissance works, representing various literary genres, ranging from the Age of Elizabeth through the Jacobean era into the Caroline period. Writers such as Shakespeare, Spenser, Sidney, Elizabeth I (and other woman writers), Marlowe, Jonson, Drayton, Daniel, Donne, Marvell, Webster, Marston, Middleton, Ford, Chapman, and Milton will be studied in the light of (1) modern critical and scholarly approaches to Renaissance themes and styles, (2) literary manifestations of Neo-Platonism, Neo-Stoicism, and political theory, and (3) parallels with developments in the graphic arts (emblem literature, visualized mythology, and the movement toward mannerist and baroque forms). Although the seminar will concentrate on a select number of texts, it will also provide an overview of the English Literary Renaissance and its connections with the Continental Renaissance. In short, the seminar will serve as both a general grounding in and a specialized study of a major literary period.
4 Credits

Engl 635
Metaphysical Poetry
Mr Greene, Mr Tobin
A survey of the major English poets called "metaphysical" in their historical context: Donne, Herbert, Vaughan, Crashaw, Marvell.
4 Credits

Engl 637
Milton
Mr Greene, Mr Smith, Mr Tobin
A study of the poetry and major prose with particular attention to *Paradise Lost;* Milton's style, his relations to traditional literary forms, his thematic concerns; an examination of Milton criticism.
4 Credits

English

Engl 639
Eighteenth Century Studies
Mr Blair, Mr Knight
Study of the Enlightenment in Britain, with emphasis on the major Augustan satirists—Dryden, Swift, and Pope; and on prose writers such as Defoe and Fielding, and critics such as Addison and Johnson.
4 Credits

Engl 640
The Rise of the Novel
Mr Knight, Mr Crossley
A literary and historical study of early experiments in the shaping of the new genre of the novel. Samples, ranging from the late seventeenth century to the early nineteenth, include a variety of experimental forms. Novelists include Defoe, Fielding, Richardson, Sterne, Smollett, Austen, Scott, and the "Gothics."
4 Credits

Engl 641
Studies in Romanticism
Mr Broderick, Ms Fay, Mr Hart
A search for the meaning and importance of British romanticism in poetry, fiction, and thought, with reference to the three modes: gothic (Blake and Godwin), romantic (Byron and Scott), pastoral (Wordsworth and Austen).
4 Credits

Engl 642
Victorian Literature
Mr Broderick, Ms Horton
Studies in the careers and works of a few major authors such as Carlyle, Tennyson, Dickens, George Eliot, Ruskin, and Wilde, with brief excursions into the works of others. Major themes include the relations of art and society and the problems of faith and doubt, science and imagination.
4 Credits

Engl 644
Studies in Modern British Literature
Mr Lyons
The focus of the course will be on the way changes in English society consequent to the First World War are reflected in British novels after the war. We will read E M Forster's *Howard's End* as a representative novel of pre-war British society, some general works on the social and intellectual impact of the war and several novels written between 1916 and 1930. The interests of the course are twofold: the effects the war had on the ways writers looked at their world, and the ways social assumptions and attitudes get reflected in fiction.
4 Credits

Engl 645
Modern Poetry
Ms Collins
A study of the major figures and currents in modern British and American poetry.
4 Credits

Engl 646
Literature and Society
Ms Annas, Mr Hart
A study of literature with special reference to its social and historical circumstances, and of the theoretical questions raised by such a perspective.
4 Credits

Engl 647
Irish Literary Revivals
Mr O'Connell, Mr O'Grady
A study of Irish literature from 1890 to the present. The writings of the "Irish Renaissance" in part inspired the Rising of 1916, then responded to its effects. Recent Irish writings bear similar relations to the renewed "Troubles" in Northern Ireland. The course will examine the relationships between literature and politics in the times of Yeats and Heaney. Other writers discussed: A Gregory, JM Synge, S O'Casey, J Joyce, F O'Connor, S O'Faolain, P Kavanagh, R Murphy, T Kinsella, J Montague, S Deane, D Mahon, B Friel, B Moore, J McGahern, B Kiely, E O'Brien.
4 Credits

Engl 648
Modernism in Literature
Mr Helms
This is a course not in modern literature but in *modernist* literature—not Frost and Fitzgerald, but Joyce, Pound, Eliot, Stein, Woolf, Hemingway, Faulkner, Williams, and Stevens—writers who are to literature what Picasso, Stravinsky, and Corbusier are to painting, music and architecture. We discuss some modernist art and architecture (Cubism, Fauvism, the Bauhaus) by way of defining the characteristics of the modernist sensibility—its intense subjectivity, its love of the perverse, its rejection of traditional aesthetic order, its sense of radical rupture with the traditional past and of a relationship between writer and reader involving effort and conflict. "On or about December 1910," wrote Virginia Woolf, "human nature changed." That's where we begin—with the death of the old world and the birth of our own.
4 Credits

Engl 650
Image of America
Mr Gittleman, Mr Katz
An examination of the way in which America has responded to the concept of the new world and the image of self and nation that has evolved.
4 Credits

Engl 651
Colonial American Literature
Mr Gittleman
This seminar will closely examine texts composed by seven colonial Americans. These are women and men who—through their writings—tried to understand their contemporaries and themselves during two periods of rapid cultural change: 17th Century Puritanism and 18th Century Revolutionaryism. Anne Bradstreet, a first-generation Puritan, who used poetry as a way of establishing and preserving her sense of herself as a woman and as an individual. Mary Rowlandson, whose account of her life as a captive of Indians reveals a fascination with people she despised. Sarah Kemble Knight, whose difficult journey from Boston to New York in 1704 became the occasion for a witty but realistic commentary on contemporary manners and morals. Phillis Wheatley, a black slave in Boston, who liberated herself through the poems she wrote. Benjamin Franklin, whose "Speech of Polly Baker" and "The Way to Wealth" will be read for the fun of it, partly. Thomas Jefferson, who placed his draft of the Declaration of Independence in the context of his *Autobiography*. Hector St. John de Crevecoeur, whose literary experiments juxtapose ideals and realities, fictions and facts, in ways that force us to scrutinize our own twentieth-century values.
4 Credits

Engl 652
American Romanticism
Mr Katz
A study of critical conceptions of American Romanticism. Readings will include examples of critical writing and fiction by Brown, Irving, Cooper, Poe, Simms, Hawthorne and Melville, and poetry by Bryant, Poe, Longfellow, Lowell, Emerson and Whitman.
4 Credits

Engl 653
Major American Novelists
Mr Stoehr, Mr Katz, Ms Rudnick
A study of selected pairs of American novelists, considered comparatively. Authors include Hawthorne, Melville, James, and others.
4 Credits

English

Engl 654 Faulkner
Staff
A reading of all the major fiction centered in Yoknapatawpha County, with an intensive study of selected texts.
4 Credits

Engl 655
Modern American Poetry
Mr Schreiber, Mr Helms
A study of most of the acknowledged major modern American poets and some fine poets writing today: William Carlos Williams, Robert Frost, Wallace Stevens, Langston Hughes, and possibly Ezra Pound, and some poets from among the following: H.D. (Hilda Doolittle), Marianne Moore, Adrienne Rich, Judy Grahn, Gwendolyn Brooks, Gary Snyder, Allen Ginsberg.
4 Credits

Engl 656
Contemporary American Fiction
Mr O'Connell
A study of the scope (times and types) and strains (types and tensions) in the post WWII, post-Modern American novel, with special attention to the persistence of realism, the insistent presence of surrealism, and the occasional combination of the two.
4 Credits

Engl 657
The Black Presence
Mr. Gittleman
Study of selected literary texts of the last two hundred years by major and minor authors who wrote with a special consciousness of the significance of black people in American society.
4 Credits

Engl 658
Regional Literature
Mr Blair
Regional consciousness in representative works of modern American writers of the South and New England; the roles that the sense of history, the sense of place, and the response to the natural world play in the work of Southern and New England writers.
4 Credits

Engl 659
Women in Literature
Staff
Through reading fiction by American authors from the 18th to the 20th centuries, we will attempt to identify the characteristics of female characters and to understand the historical, ideological and aesthetic reasons for both the persistence and the modification of the underlying images. The influence of gender, ethnicity, geographical setting, and major literary movements such as romanticism and realism will be examined. Short stories by such authors as Washington Irving, Nathaniel Hawthorne, Herman Melville, Henry James, Sarah Orne Jewett, Alice Cary, Harriet Beecher Stowe, and Alice Walker will be studied first to establish the range and variety of images. Following these, we study novels by such authors as Rowson, Hawthorne, Stowe, James, Wharton, Cather, Roth, Hurston, and Morrison. Some basic acquaintance with American literature is assumed.
4 Credits

Engl 661
Studies in American Literature: New York, New York
Mr Grove
The city of New York, as viewed by American authors both past and present, will be the focus of this course. Close attention will be paid to the rich manner of portrayal of this most potent American city, as well as to the role of New York as a destiny shaper in the lives of characters in both fiction and poetry. All areas of the city will be treated, from Brooklyn to the Upper East Side. Authors include Whitman, Stephen Crane, James, Hart Crane, and several contemporary novelists.
Prerequisite: Admission to English MA Program or permission of Graduate Program Director.
4 Credits

Engl 662
Modern Black Writers
Ms Washington
The 250 year old history of black (North) American literature has sometimes converged with mainstream American literature but more often it has been a separate and distinct tradition. From the early slave narratives to contemporary texts, the tradition of letters among black Americans has arisen out of certain unique imperatives: the need to create a self in a world that tried to diminish that self; the search for political freedom and power; the sense of connectedness to a community. We will consider the origins of this tradition in the slave narratives of Frederick Douglass and Linda Brent; its development in the fiction of early 20th century writers like Chesnutt, Dunbar, DuBois and Harper; its growth through the Harlem Renaissance; and its flowering in major contemporary writers Wright, Baldwin, Ellison, Brooks, Marshall, Morrison and Walker. The course will also be directed towards an understanding of the historical "problems" of Afro-American writers; the black writer vs. the white audience; the aesthetic vs. the protest tradition; the sense of "double consciousness" in black writers: male domination of the Afro-American canon. To address the issue of women in the canon, we will study these texts in pairs, one by a woman writer and one by a man, to determine how the traditional courses, historical problems, and narrative strategies of the Afro-American tradition have until recently denied women an equal place in that tradition.
4 Credits

English

Engl 670
Philosophy and the Composing Process
Ms Roskelly
Current rhetorical theory emphasizing the process of composing has developed several models which are nevertheless linear (pre-writing, writing, re-writing is the most popular). But writers and teachers of writing need ways of apprehending the all-at-onceness of composition. This seminar offers opportunities to develop philosophical perspectives on perception and forming; language and the making of meaning; interpretation in reading and teaching. We will explore the pedagogical and practical implications of a broad range of theories of language and knowing by means of experimental writing and by the study of essays, letters, talks, etc., by scientists, artists, and philosophers. Students choosing to concentrate in composition for the English MA are required to take this course at or near the start of their programs.
4 Credits

Engl 671
The History of Children's Literature
Ms Shaner
This course provides an overview of the field of children's literature and its development. The subject matter will be approached with both critical and scholarly attitudes, and works will be examined in historical and cultural contexts. Topics and texts include: myth, folk, and fairy tale; children's books from the Middle Ages and Renaissance, through materials of colonial America, the 19th Century moralists and fantasists, to modern classics, with consideration as well of critical theories and questions of pedagogy.
Prerequisite: Admission to the English MA Program or permission of the English Graduate Program Director.
2½ Lect Hrs, 4 Credits

Engl 691
New Approaches to Medieval Literature
Ms McAlpine, Ms Shaner
A study of revolutionary modern critical thought on medieval literature, such as the *Beowulf*, Chaucer's *Troilus*, and medieval drama. The course examines medieval literary and critical theory, the "historical" approach of 19th century critics, and the seminal essays and books of 20th century scholars.
4 Credits

Engl 692
Problems in Modern Criticism
Mr Bruss, Ms Horton
An introduction to some important modern critics: TS Eliot, IA Richards, Northrop Frye, Harold Bloom, Freud, DH Lawrence, Kenneth Burke, George Lukacs, Walter Benjamin, Sartre, Raymond Williams, and perhaps Blanchard, Blanchot or Derrida. The emphasis will be on some problems these critics face: defining their function, choosing a method, adopting an epistemology, setting formal aims. We will consider how the three "schools" these critics represent (the Aesthetic, the Synthetic, and the Radical) offer varying solutions to these problems.
4 Credits

Engl 696
Independent Study
Staff
A comprehensive study of a particular area of literature, a particular author, etc. Consultation with the Director of Graduate Studies is mandatory. Applications or outlines of study must be submitted at the end of the semester previous to the study. Approval by graduate committee is required.
1 to 5 Credits

Engl 697
Special Topics in Literature and Composition
Staff
Experimental new graduate seminars on special subjects may be offered once from time to time under this heading. Topics are announced annually. Recent offerings (now under development as regular new courses) include Writing and the Media; Studies in Modern American Literature; 20th Century Black Writers; Folklore and American Literature; History of Children's Literature.
4 Credits

Engl 699
Final Projects in Literature
Staff
This course provides a structure for students working toward completion of the final exercise requirement of the English MA (Literature), and supplements work done in regular seminars. Biweekly workshops (for paper-writers and for examination writers), alternate with biweekly tutorial conferences with individual faculty supervisors. Paper plans and drafts will be studied and critiqued; examination materials and sample questions will be analysed. Grades for the course are determined on the basis of the final paper or examination by graduate faculty readers in consultation with supervisors and the workshop director (the program director in English). To count toward the degree, the course must be completed with a grade of B or better.
Prerequisites: English MA candidacy and completion of at least four English graduate courses with satisfactory grades.
3 Credits

Environmental Sciences

Faculty

Robert E Bowen, PhD, *University of Southern California*, Environmental Policy and Management

Joseph J Cooney, PhD, *Syracuse University*, Microbial Physiology and Ecology

John W Farrington, PhD, *University of Rhode Island*, Organic Geochemistry

Eugene D Gallagher, PhD, *University of Washington*, Benthic Ecology, Polychaete Biology, Succession, Serology, Predator-Prey Relationships

George B Gardner, PhD, *University of Washington*, Physical Oceanography

Anne E McElroy, PhD, *Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint Program*, Biological Oceanography and Aquatic Toxicology

Gordon Wallace, PhD, *University of Rhode Island*, Aquatic and Atmospheric Chemistry

The Program and Facilities

The multidisciplinary doctoral program in environmental sciences at the University of Massachusetts at Boston trains individuals for leadership roles as environmental scientists in the public and private sectors. Graduates prepare for careers in industry, government agencies, health related fields, and university teaching and research. The program emphasizes research and training in urban harbors and coastlines. It offers advanced courses, research, and other training in a broad spectrum of environmental problems in both the laboratory and the field.

The campus is located on Boston Harbor within easy commuting distance of the residential areas of metropolitan Boston. Near the campus are island systems, protected bays, exposed open ocean areas and Georges Bank, a highly productive offshore fishing region. The University's field stations in Gloucester and on Nantucket Island provide additional marine ecosystems and access to aquatic, wetland, and terrestrial ecosystems.

Research facilities include modern, well-equipped laboratories, support facilities, the science library, computing facilities, and specialized equipment reflecting the research interests of the faculty.

Degree Requirements

Please see the general statement of degree requirements for PhD programs.

Formal course work includes a required core curriculum and a specialty area. Core courses include courses in statistics, scientific writing, two courses in the area of environmental policy/administration/management, and any two of the following three courses: Biological Oceanographic Processes (EnvSci 630); Chemistry of Natural Waters (EnvSci 640); Physical Oceanography (EnvSci 650). In addition, about thirty hours of course work are usually necessary to provide thorough grounding in the student's area of specialization. At present these areas include aquatic toxicology/physiology, chemistry of aquatic systems, environmental economics, environmental microbiology, environmental policy and administration, estuarine physics, and marine ecology.

Each student's program of study and dissertation research is guided by a graduate committee. No later than the end of his or her second semester in the program, the student selects a major professor, who will serve as chair of this committee. The major professor and the student together select two additional faculty members to complete the committee.

No later than the end of the third semester, the student meets with the committee to formulate his or her program of study. This plan will include the specification of areas for which the student will be responsible on the comprehensive examination; a written dissertation proposal; and, if considered necessary by the committee, a computer language or foreign language requirement.

No later than the sixth semester, the committee administers the comprehensive written and oral examination, which tests intellectual maturity and competence both in the broad area of environmental sciences and in the student's area of specialization. In order to advance to the oral portion of the examination, the student must perform satisfactorily on the written portion. A student who fails the comprehensive examination may, at the committee's discretion, be permitted a second and final examination.

The student who successfully completes the comprehensive examination becomes a candidate for the PhD degree, and is thus required to present and defend a scholarly dissertation based on original research. The student's dissertation committee consists of at least five members, one of whom will be designated by the Dean of Graduate Studies and Research as his or her representative and who will be from outside the Environmental Sciences Program. The student's major professor will chair the committee.

Thesis research may be done in the laboratory or in the field, or may be carried out in part during residency with an appropriate private business or governmental agency.

If the presentation and successful defense of the dissertation do not take place within five years of admission to candidacy, the candidate must repeat the comprehensive examination. Please see the general statement on time limits and leaves of absence.

The adequacy of each student's progress toward the degree will be assessed at least once a year. Until the student's graduate committee is formed, this assessment is made by the program director in consultation with the faculty. A formal review takes place between the second and the fifth semester, before the program of study is formulated. The student's committee, when selected, assumes the responsibility for the ongoing assessment of the student's program.

Criteria for adequate progress include performance in courses, and seminar presentations (each student presents one departmental seminar per year). Students are expected to maintain a B average in courses and, normally, two grades of C or one grade of F will result in expulsion from the program. The student must have a B (3.0) average, or better, at the time of the comprehensive examination.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The Environmental Sciences Graduate Committee recommends admissions on the basis of the completed application, official transcripts, Graduate Record Examination scores (aptitude tests only) and letters of recommendation.

A BA or BS degree is required for admission, normally with sound undergraduate training in the natural and physical sciences, calculus and statistics. Candidates who have completed a Master's Degree are particularly welcome. Majors in the natural and physical sciences, mathematics, engineering, and economics would be appropriate.

As prerequisites for admission to the program, each student must have completed the following: (1) chemistry through organic; (2) one advanced biology course in taxonomy, evolution, or ecology; (3) one advanced biology course in plant, animal or cellular physiology, cell biology, genetics, biochemistry, or microbiology; (4) a college course in calculus or physics.

Because of the interdisciplinary nature of the program, and because many otherwise excellent candidates who did not major in science might be lost to the program, applicants with a wide variety of academic training will also be considered, with the understanding that deficiencies will be remedied prior to admission. Students with broad general deficiencies will be required to correct these before admission to the program is granted. These undergraduate deficiencies must be satisfied without credit and before full admission status is granted. Upon acceptance each student is assigned a provisional advisor who will guide his or her program through the first year.

Course Descriptions

Graduate courses in the Environmental Sciences Program are open to regularly matriculated students in the Program, and to others with permission of individual course instructors.

In addition to the courses listed below as offered by the program, students in Environmental Sciences may take graduate courses and certain undergraduate courses in biology, chemistry, economics, mathematics, and physics, as part of their program of study.

Environmental Sciences

EnvSci 610
Introduction to Environmental Sciences
Staff
An interdisciplinary course which examines natural systems and the impact of man's activities at all levels of the biosphere.
3 Lect Hrs, 3 Credits

EnvSci 611
Applied Statistics
Staff
An applied approach to basic univariate statistics. The procedures for a variety of descriptive statistics, hypothetical probability distributions, and statistical tests are reviewed, with emphasis on choosing the appropriate statistic for a given situation, and on the general rationale for all statistical tests. Students are introduced to a computer statistics package.
Prerequisites: Calculus; an advanced course in the natural or social sciences.
3 Lect Hrs, 3 Credits

EnvSci 612
Multivariate Statistics
Staff
Introduction to multivariate statistical methods. Topics include regression analysis and various classification techniques. Theoretical foundations are discussed, but the emphasis is on applications. Students make use of a computer statistics package.
Prerequisite: EnvSci 611 or equivalent, or permission of instructor.
3 Lect Hrs plus independent work at the computer console, 3 Credits

EnvSci 614
Introduction to Research Techniques I
Mr Gallagher and Staff
This course introduces research techniques and approaches to environmental problems. Students examine key environmental processes in the urban estuarine environment, using a hands-on approach that includes participation in research cruises and analysis of samples in several laboratories. Research Techniques I focuses on biological processes, while Research Techniques II focuses on chemical processes. Areas to be covered include experimental design; methods for examining microbial standing stocks and productivity; benthic community structure, and field sampling techniques.
Prerequisites: EnvSci 630 or Biol 603, and EnvSci 640; or permission of instructor.
1 Lect Hr, 8 Lab and Field Hrs, 4 Credits

EnvSci 615
Introduction to Research Techniques II
Staff
A companion course to EnvSci 614, intended to familiarize the student with research techniques in environmental science with emphasis on chemical techniques. EnvSci 615 may be taken independently of EnvSci 614.
Prerequisite: Organic chemistry.
6 Lab and Field Hrs, 3 Credits

EnvSci 616
Environmental Policy and Administration
Mr Bowen
Study of how solutions to environmental problems are implemented. Techniques of policy-making and administration in both public and private organizations are studied. Government and industrial administrators are brought to campus to provide insight into real world problems and solutions.
3 Lect Hrs, 3 Credits

EnvSci 630
Biological Oceanographic Processes
Mr Gallagher
The processes which govern the population dynamics of phytoplankton, zooplankton, and benthos will be studied in the context of ecological simulation modeling. Calculus recommended, but not required.
3 Lect Hrs, 3 Credits

EnvSci 640
Chemistry of Natural Waters
Mr Wallace
A basic description of the chemistry of natural and especially marine waters designed to lay the foundation for more advanced course work. Emphasis will be on the chemical composition of natural waters and the identification of the important chemical, physical, and biological processes controlling their composition. A case study, emphasizing the multidisciplinary nature of these processes, will be given at the end of the course.
3 Lect Hrs, 3 Credits

EnvSci 650
Physical Oceanography
Mr Gardner
This course introduces the physical processes active in the ocean environment, including coastal and estuarine regions, and investigates the connection between those processes and observed physical characteristics of the ocean.
Prerequisites: Physics or calculus, and admission to the program; or permission of instructor.
3 Lect Hrs, 3 Credits

EnvSci 655
Estuarine Oceanography
Mr Gardner
This course considers such significant physical processes in estuaries as, for example, the variables (e.g., tidal amplitude and river flow) which determine the nature and intensity of circulation patterns and contaminant dispersal. These processes are studied both through description of representative estuaries, and by examination of the mathematical equations governing the processes. Some knowledge of calculus is required, but an extensive mathematical background is not essential. Concepts are reinforced through a class project focusing on Boston Harbor and Massachusetts Bay.
Prerequisite: Calculus and physics, or permission of instructor.
3 Lect Hrs, 3 Credits

EnvSci 660
Aquatic Toxicology
Ms McElroy
This course investigates the properties, fate, and effects of toxicants in the aquatic environment. Emphasis will be placed on bioavailability and on the effects of pollutants on marine organisms.
Prerequisites: Biol 211, 232, 358, and Chem 254; or equivalents; or permission of instructor.
3 Lect Hrs, 3 Credits

EnvSci 665
Methods in Aquatic Toxicology
Staff
This course provides hands-on experience with methods currently in use in aquatic toxicology. The course involves the reading and discussion of current literature; laboratory sections where students jointly conduct, analyze, and present the results of each exercise; and individual student projects.
Prerequisite: EnvSci 660 or permission of instructor.
1 Lect Hr, 4 Lab Hrs, 3 Credits

EnvSci 670
Environmental Economics
Staff
This course is designed for those students in the program who have a minimal background in economics. It focuses on the use of economic analysis as a tool for helping to resolve environmental policy problems. Discussion includes such topics as benefit-cost analysis, the taxation and regulation of polluters, fisheries management, and the analysis of current government policies directed at the regulation and reduction of air, water, and solid waste pollution.
Prerequisites: College calculus; matriculation in the Environmental Sciences Program or permission of the graduate program director.
3 Lect Hrs, 3 Credits

EnvSci 697
Special Topics in Environmental Sciences
Staff
Provides an opportunity for presentation of particularly timely lecture/laboratory/field material which does not fall under the purview of any other course.
Prerequisite: Permission of instructor.
Hrs by arrangement, 1-3 Credits

Environmental Sciences

EnvSci 710
Environmental Biogeochemistry
Mr Farrington
This course identifies and defines the influence of biota on the geochemical cycling of inorganic and organic substances through the atmosphere, hydrosphere, and lithosphere. Particular emphasis will be placed on contemporary research in the biogeochemistry of carbon, sulfur, selected metals, and organic compounds of natural and anthropogenic origin. Calculus and biochemistry recommended, but not required.
Prerequisites: Organic chemistry; second year graduate student standing in the Environmental Sciences Program, or permission of instructor.
3 Lect Hrs, 3 Credits

EnvSci 715
Isotope Geochemistry
Mr Farrington, Mr Wallace
This course explores the use of stable and radioactive isotopes in delineating biogeochemical and geochemical processes in the environment. Emphasis will be placed on recent advances in the field. Specific topics to be addressed include: geochronology, paleothermometry, use of isotopes as tracers, and analytical methods.
Prerequisites: Calculus, physics (1 year); and EnvSci 710 or EnvSci 640, or comparable geochemistry course, or permission of instructor(s).
3 Lect Hrs, 3 Credits

EnvSci 716
Scientific and Technical Information and the Policy Process
Mr Bowen
This course will consider the role of scientific and technical information in the policy-making process. Questions of the impact of information on policy evaluation, the role of scientists, and research agenda setting will all be discussed.
3 Lect Hrs, 3 Credits

Env Sci 720
Benthic Boundary Layer Process
Mr Gallagher
An interdisciplinary view of the benthos in freshwater, estuarine, and marine ecosystems. Special attention is paid to the interactions between physical, chemical, and geological processes and benthic populations. Calculus, EnvSci 630, EnvSci 640 recommended.
3 Lect Hrs, 3 Credits

EnvSci 726
Coastal Zone Management
Mr Bowen
This course introduces and evaluates the legal, political, and social factors that most directly affect the management of coastal area resources. Both conceptual and case-oriented literature are reviewed, in order to familiarize the student with the evolution and practice of coastal zone management generally in the U.S., and particularly in the Commonwealth of Massachusetts.
3 Lect Hrs, 3 Credits

EnvSci 730
Scientific Writing
Staff
This course, designed for second-year graduate students, is intended to develop skills in the written presentation of environmental scientific information. It covers poster presentation, manuscript preparation, computer and other graphics techniques, research proposals, environmental impact statements, and the preparation of professional resumes.
Prerequisite: Completion of 12 hours of graduate course work in the program, or permission of instructor.
3 Lect Hrs, 3 Credits

EnvSci 736
Harbor Management
Mr Bowen
This lecture/discussion course introduces students to seaport systems and their management, and to some of the policy issues facing these public enterprises and their surrounding communities. The course focuses particularly on such issues as (1) environmental management in urban estuaries; (2) harbor development and environmental management; and (3) multiple-use conflicts in urban harbors. Issues facing Boston Harbor and Massachusetts Bay will be emphasized, but relevant examples will be drawn from other harbors in the United States and from some in other countries.
3 Lect Hrs, 3 Credits

EnvSci 750
Organic Geochemistry
Mr Farrington
This course examines the production and cycling of organic matter at the earth's surface. Starting with the photosynthetic fixtion of CO_2 and the biosynthesis of a diverse array of molecules, the course traces the path of reduced carbon through the biogeosphere to incorporation in sedimentary deposits. Specific topics to be addressed include photosynthesis, biosynthesis, chemical evolution, the organic carbon cycle, diagenesis and catagenesis: the formation of fossil fuels, and the biogeochemistry of organic compounds of environmental concern. Students are introduced to selected analytical methods used in organic geochemistry.
Prerequisite: EnvSci 640, or EnvSci 710, or permission of instructor.
4 Lect Hrs, 4 Credits

EnvSci 756
Computer Applications in Environmental Science
Mr Gardner
An introduction to the use of computers in the environmental sciences. The major emphasis of the course is on a variety of computer models of biological, chemical, and physical aspects of the marine environment. Data acquisition and analysis are also covered. Examples will be drawn from the primary and the review literature in the relevant fields.
Prerequisites: Calculus; two 300-level science courses in student's major, or equivalent.
2 Lect Hrs, 3 Lab Hrs, 3 Credits

EnvSci 780
Seminar in Environmental Chemistry
Mr Farrington, Mr Wallace
Lectures and discussion focused on contemporary issues in environmental chemistry.
Prerequisites: EnvSci 640 and/or permission of instructor(s).
3 Lect Hrs, 3 Credits

EnvSci 782p
Seminar in Environmental Microbiology
Mr Cooney
Lectures and discussions focus on contemporary issues in environmental microbiology.
Prerequisites: Biol 627 or 628, or equivalent, or permission of instructor.
3 Lect/Disc Hrs, 3 Credits

EnvSci 791
Seminar in Environmental Sciences
Mr Cooney
Presentations and discussions of current topics in environmental sciences by students and visiting lecturers. Registration required each semester.
1 Disc Hr, 1 Credit

EnvSci 796
Independent Studies in Environmental Science
Staff
Independent laboratory and/or library studies under the direction of a faculty member.
Prerequisite: Permission of instructor and program director.
Hrs by arrangement, 1-3 Credits

EnvSci 798p
Internship in Environmental Sciences
Staff
Individual student placements at a private sector or government insititution in order to provide training and professional experiences not available on campus. Each placement is jointly supervised by an individual at the host agency or company and by a faculty member.
Prerequisites: Completion of 18 graduate credits.
Hrs by arrangement, 1-9 Credits

EnvSci 899
Dissertation Research
Staff
Research, conducted under faculty supervision, which leads to the presentation of a doctoral dissertation.
Hrs by arrangement, 1-6 Credits

History
History Track
Archival Methods Track
Historical Archaeology Track

Faculty

Feroz Ahmad, PhD, *University of London*, Middle Eastern History

Barbara Ayres, PhD, *Harvard University*, Cultural Anthropology, Psychological Anthropology (Anthropology Department)

Lester J Bartson, PhD, *Harvard University*, Ancient History

Paul Bookbinder, PhD, *Brandeis University*, German History

Francis L Broderick, PhD, *Harvard University*, American Social and Intellectual History since 1865

Thomas N Brown, PhD, *Harvard University*, 20th Century American and Immigration History

Thomas Buckley, PhD, *University of Chicago*, Linguistic and Cultural Anthropology and Ethnohistory (Anthropology Department)

Michael Chesson, PhD, *Harvard University*, American Civil War & Reconstruction

Jonathan Chu, PhD, *University of Washington*, American Colonial History

Spencer DIScala, PhD, *Columbia University*, Modern Italian History

Paul Faler, PhD, *University of Wisconsin*, American Labor and Social History

Clive Foss, PhD, *Harvard University*, Ancient History

Paul A Gagnon, PhD, *Harvard University*, Contemporary French History

Frederick Gamst, PhD, *University of California at Berkeley*, Cultural Anthropology: Complex Society (Anthropology Department)

Michael Gibbons, PhD, *Yale University*, Biological Anthropology (Anthropology Department)

Anthony H Hull, PhD, *University of Alabama*, Spanish History

David Hunt, PhD, *Harvard University*, French Revolution

Lawrence Kaplan, PhD, *University of Chicago*, Archaeological Botany (Biology Department)

Esther Kingston-Mann, PhD, *Johns Hopkins University*, Russian History

Barbara Luedtke, PhD, *University of Michigan*, New World Prehistoric and Contact Period Archaeology (Anthropology Department)

Timothy McCarthy, PhD, *Brandeis University*, European Intellectual History

Thomas A McMullin, PhD, *University of Wisconsin*, American Social History

Frances Malino, PhD, *Brandeis University*, Middle Eastern and Jewish History

Stephen Mrozowski, PhD, *Brown University*, New World and Old World Historical Archaeology (Anthropology Department)

Charles Nelson, PhD, *University of California at Berkeley*, Old World Pre- and Proto-Historic Archaeology (Anthropology Department)

James M O'Toole, PhD, *Boston College*, Archival Methods and American History

Mark R Peattie, PhD, *Princeton University*, East Asian History

William A Percy, PhD, *Princeton University*, Medieval History

Richard H Powers, PhD, *Ohio State University*, Modern European History

Roger W Prouty, PhD, *Columbia University*, Modern Britain, British Empire, and History of Boston

Martin H Quitt, PhD, *Washington University*, Early American History

Eric H Robinson, MA, *Cambridge University*, Economic History and History of Technology

Lester A Segal, PhD, *Columbia University*, Early Modern French and Jewish History

Marshall S Shatz, PhD, *Columbia University*, Russian History

Malcolm R Smuts, PhD, *Princeton University*, Tudor-Stuart England

Michiko Takaki, PhD, *Yale University*, Linguistic and Cultural Anthropology (Anthropology Department)

Renee Watkins, PhD, *Harvard University*, Renaissance and Reformation

The Program

The History Department offers a master's degree in history and in the special tracks of history/archival methods and (with the Anthropology Department) history/historical archaeology.

History

The Master of Arts Program in History offers a rigorous, individually planned set of courses and supervised research and writing. Both demanding and flexible, it suits those students who intend to pursue a PhD as well as those who seek to test their capacity for graduate work. Not all students enter directly from college; many return at the beginning graduate level after long absences from school. The student body includes teachers at the secondary level who desire to improve their knowledge of the field. Students who simply wish to pursue advanced studies for their own intellectual enjoyment and development also benefit from the program's design. Graduate enrollment is small, affording the graduate student close faculty attention and support.

History/Archival Methods

The History/Archival Methods track of the History MA program combines graduate study in history with training in archives and manuscripts administration. The track prepares students for careers as archivists in the public or private sector. It is of special appeal to librarians and museum staff members who wish to develop archival skills.

History/Historical Archaeology

The History/Historical Archaeology track of the History MA program offers a course of study specifically designed to meet the interdisciplinary rigors of historical archaeology. This track is structured to prepare students for careers in public archaeology or cultural resource management as well as providing the necessary prerequisites for further training at the doctoral level. Internships available at area museums also offer the opportunity for working with collections and related experience. Flexibility in program design permits the accommodation of part-time as well as full-time students. The primary focus of the program is the European colonization and settlement of North America, with special emphasis on New England. Individual programs, however, can be designed to accommodate an interest in other geographical areas as well as specialized training in urban and environmental archaeology. The track consists of a two-year sequence of courses, starting with general method and theory in archaeology; New England historical archaeology; historiography; and research methods in history. This is followed by archaeological field work and documentary research leading to the preparation of an original problem-oriented MA thesis.

Degree Requirements

Requirements for the History program and the History/Archival Methods track are 30 credit hours. All students are required to take the graduate colloquium on historical methodology (4 credits) and five additional approved courses (20 credits). For students in the History/Archival Methods track, those additional courses include the introductory archival methods course and two advanced courses, and a research seminar in American history.

Students in the History program complete a master of arts thesis (6 credits). For students in the History/Archival Methods track there is an archival practicum (6 credits) which is in lieu of the master of arts thesis.

Requirements for the History/Historical Archaeology track total 38-44 credits, of which 6-10 are for a field course, and 6-10 are for the MA thesis research project course. Other required courses include the History Graduate Colloquium, the Research Seminar in American History, New England Historical Archaeology, and the Graduate Lab Seminar in Archaeology. The remaining course choices must be approved by the student's advisor and the Associate Graduate Program Director for Historical Archaeology.

History

Applicants to the History/Historical Archaeology track should have a BA in anthropology or history, or several courses in at least one of these fields. Students lacking background in either of these fields will be required to take undergraduate preparatory courses. Those minimally required in history include an introductory level course in American history, and upper level courses in European history, American history, and historiography. Background courses minimally required in anthropology include introductory archaeology, and upper level courses in anthropological theory, archaeological method and theory, and historical archaeology. While a more comprehensive undergraduate background in both fields is desirable, these background course requirements with additional assignments for MA students will minimally prepare students for graduate level study in each field.

Students enrolled in the History program and the History/Archival Methods track must demonstrate a reading proficiency in one foreign language—French, German, Spanish, or another judged relevant to the student's major area of interest. This requirement may be met by performing satisfactorily on the ETS Graduate School Foreign Language Test, or by passing a test administered by the program.

Students may choose to pursue the master of arts degree either full or part time. In normal circumstances it is expected that all requirements for the degree will be completed by full-time students within three years of each student's first enrollment and within four years by part-time students.

Before candidates are approved for the master of arts degree, they must be examined orally on the thesis or practicum and on the fields of history (and historical archaeology, where students are pursuing this track) in which it falls. The examining committee consists of the student's thesis/practicum supervisor and two additional readers (one of whom may be from outside the History Graduate Program) to be chosen by consultation among the supervisor, the student, and the graduate program director. To pass these examinations, students must receive at least two affirmative votes. If they fail, they may repeat the examination two times at intervals of not less than three months. If the examination has not been passed within two calendar years from the date upon which the examination was first taken, the student will be removed from degree candidacy, and will be readmitted only through a special petition to the Graduate Committee.

No grade below "B–" awarded to a graduate student will count toward fulfilling the requirements for a master of arts degree in History.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Applicants must submit evidence that they are able to perform graduate work at a high level of competence. Graduate Record Examination scores should be submitted if available.

Applicants interested in History and History/Archival Methods will normally be expected to have maintained a 3.0 cumulative average in history courses as undergraduates. Applications from persons who did not major in history as undergraduates will be considered, but such persons, if admitted, may be asked to pursue a program of reading or course work designed to remedy any deficiencies in their preparation for graduate study.

Applicants for the History/Historical Archaeology track will normally be expected to have maintained a 3.0 cumulative average, majoring in either anthropology, history, American civilization, or another related field. Any deficiencies in history or anthropology must be remedied by taking prerequisite undergraduate courses before taking the graduate courses in that field. These required background courses should be taken in the first year of study along with graduate courses for which students have completed the preparation.

Courses

600-level courses up to 689 are open to graduate and undergraduate students. Courses above the 689 level are open to graduate students only.

Hist 610
American Historical Tradition
Mr Chesson and Staff
This course will explore the major schools of American historical interpretation and study the historical controversies that surround major developments in the history of the United States. Among the many historians to be discussed are Bancroft, Turner, Beard, Hofstadter, and Williams.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 615
European Historical Tradition
Staff
The history of European historical writing from Voltaire to Toynbee, with emphasis on the historians of the nineteenth century.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 631
Fall of the Roman Empire
Mr Foss
This course examines one of the great problems of European history and in the process surveys the entire period from the third century to the early seventh. It considers the reasons for the fall of the Roman empire, and discusses some of the explanations that have been proposed. Topics include the crisis of the third century; Diocletian and Constantine; the Germanic invasions; and the reign of Justinian.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 632
Genocide in History
Mr Foss
A cross-cultural survey of a widespread phenomenon, this course discusses genocide from an historical point of view. Numerous cases from different regions of the world and from ancient to modern times are analyzed with a view to defining and explaining genocide.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 636
Weimar Germany
Mr Bookbinder
An examination of German life and culture under the Weimar Republic, chiefly through studies of diverse primary sources ranging from memoirs and public addresses to literature, the arts, and architecture. Each student investigates one aspect of Weimar history using the available primary source material (in translation) and delivers an oral presentation and a final major paper.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 640
England, America and Revolution
Mr Smuts
This course will examine the nature of politics and political practice in both the colonies and Great Britain during the eighteenth century. The major focus of the course will be the ways in which distinctive English and American political cultures emerged out of a common tradition.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 4 Credits

History

Hist 646
The Early New England Town
Mr Chu
This course uses the early history of New England towns to examine the social life of Americans from the first settlements to the American Civil War. Through the study of the town, students consider topics in social, political, legal, economic, demographic, and environmental history.
Prerequisite: Permission of instructor.
3 Lect Hrs, 4 Credits

Hist 670
Introduction to Archival Methods
Mr O'Toole
An introduction to archival theory and practice with emphasis on the collection, appraisal, arrangement, description, and use of manuscripts and records. Lectures and exercises emphasize the application of theoretical principles to specific records problems. The course is seen as basic instruction both for those planning archival careers and for potential users of archives.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 671
Internship and Seminar in Archival Methods
Mr O'Toole
Seminar readings and discussions consider selected advanced topics in archival management, including appraisal of records, archivist-donor relations, grant-writing, and program development and planning. Each student carries out an internship project in a local archives or manuscript repository.
Prerequisites: Hist 670 and graduate standing; or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 675
Management of Public Records
Mr O'Toole
A consideration of the special problems of managing collections of modern public records. Topics include the nature and the kinds of records created by federal, state, and local governments; their appraisal, use, arrangement, and disposition; the impact of the political environment on archives; privacy and other legal questions; automated records. In addition to readings and discussions, students complete a project in a local public archives.
Prerequisites: Hist 670 and graduate standing; or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 676
Institutional Archives
Mr O'Toole
An introduction to the nature of archives in such institutional settings as business firms, law firms, hospitals, religious organizations, and universities. Topics include basic organizational studies; the establishment and the organizational placement of archives; the historical and administrative uses of archives; copyright and access problems; and archives for institutions whose main focus is non-archival.
Prerequisites: Hist 670 and graduate standing; or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 681
Topics in European History
Staff
Examinations of important themes in European political and social, cultural and intellectual history. Topics will vary.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 682
Topics in American History
Staff
Examinations of important themes in American political, social, cultural, and intellectual history. Topics will vary.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 4 Credits

Hist 692
Research Seminar in American History
Mr Faler and Staff
An advanced course in historical research. Readings and research will draw upon diverse historical materials, primary sources, records, and documents in American history. Topics will be announced in advance. Required of students in Archival Methods and Historical Archaeology.
Prerequisite: Graduate standing.
3 Lect Hrs, 4 Credits

Hist 695
Independent Study I
Staff
Advanced course of independent readings under the guidance, and subject to the examination, of the instructor. Areas and topics according to student need.
Prerequisite: Graduate standing.
Hrs by arrangement, 4 Credits

Hist 696
Independent Study II
Staff
Advanced course of independent readings under the guidance, and subject to the examination, of the instructor. Areas and topics according to student need.
Prerequisite: Graduate standing.
Hrs by arrangement, 4 Credits

Hist 697
Special Topics in History
Staff
Examination of specific issues and problems in a broad historical context. Variable topics.
Prerequisite: Graduate standing.
Hrs by arrangement, 4 Credits

Hist 698
Field Practicum in Archival Methods
Mr O'Toole
Each student completes an extended project in a local archives or manuscript repository. The project may entail organization and arrangement of a large collection of records and the production of a substantial finding aid. It may also include theoretical research about archival methods. The resulting written work will be the equivalent of a 6-credit thesis in its research, preparation, and presentation.
Prerequisite: Graduate standing.
Hrs by arrangement, 6 Credits

Hist 699
Master of Arts Thesis
Staff
Under the supervision of the appointed advisor. All topics must be previously approved by the program's graduate committee. The thesis will be judged for its suitability as partial fulfillment of the requirements for a Master of Arts degree by both the appointed advisor and two additional readers.
Prerequisite: Graduate standing.
Hrs by arrangement, 6 Credits

Hist 700
Graduate Colloquium
Ms Malino, Mr Shatz, and Staff
An advanced course in historical methodology. Topics will include historiography, the analysis of argument and evidence, recent developments in historical methods. Required of all graduate students.
Prerequisite: Graduate standing.
3 Lect Hrs, 4 Credits

History

Anth 615
Public Archaeology
Mr Mrozowski
An examination of cultural resource management in New England and the United States. Includes the significance of state and federal environmental and historic preservation legislation, and the implementation of these laws from drafting proposals and the granting of contracts to the collection of data and its analysis for recommendations to mitigate the impact of construction on archaeological sites. Students will learn the processes of national register nomination, problem-oriented proposal and report writing, and calculation of budget estimates for proposed work.
Prerequisite: Anth 241, or expertise in contract archaeology.
3 Lect Hrs, 4 Credits

Anth 625
New England Historical Archaeology
Mr Mrozowski
In-depth survey of the current research in New England historical archaeology. The course will include presentations of current archaeological research in the Northeast and discussions/evaluations of current projects with regard to their theoretical approach, methods, and results. Additionally, a laboratory section will afford practical training in the conjunctive analysis of archaeological and documentary data in problem oriented research.
Prerequisite: Anth 240.
3 Lect Hrs, 3 Lab Hrs, 5 Credits

Anth 650
Materials in Ancient Societies
Ms Luedtke
A one or two semester laboratory course offered as part of the teaching program of the Boston area Center for Materials Research in Archaeology and Ethnology, of which UMass/Boston is a member. The topic of the course rotates annually among lithic materials, ceramics, faunal/floral materials, metals, and archaeological data analysis.
Prerequisite: Permission of instructor.
3 Lect Hrs, 7 Lab Hrs, 5 Credits

Anth 665
Graduate Lab Seminar in Archaeology
Ms Luedtke, Mr Mrozowski, Mr Nelson
In-depth practical training in archaeological method and theory with emphasis on applications in historical archaeology. The course will include lectures and discussions on theory and method as well as a practice lab in the use of techniques such as matrix ordering, methods of classification, and dating.
Prerequisites: Anth 240 and Anth 241.
3 Lect Hrs, 3 Lab Hrs, 5 Credits

Anth 685
Summer Field School in Historical Archaeology
Mr Mrozowski
Summer field survey or excavation in historical archaeology for 6-8 weeks in the Boston or New England area. Credit will be given for any other appropriate field school or internship at another institution.
Prerequisites: Anth 625 and Anth 665.
3 Lect Hrs, 6-10 Credits

Anth 696
Individual Research in Archaeology
Staff
Students may take this course in addition to those required in the program in order to pursue research relevant to the program of study.
Prerequisite: Permission of instructor.
4 Credits

Anth 697
Special Topics in Archaeology
Staff
The content of this course, while always relevant to the program, will vary depending on the specialty of the visiting or permanent faculty member who may teach this course on a temporary basis.
Prerequisite: Permission of instructor.
4 Credits

Anth 698
Practicum in Archaeology
Staff
For this course, graduate classroom education is applied in a practical situation, such as fieldwork or a research project for a public archaeology contract agency, a museum, an archaeological laboratory, an historical commission, or a preservation agency. In the practicum students develop a wide range of valuable skills and experience related to possible future employment.
Prerequisites: Anth 625, 665, and permission of instructor.
Variable hrs, depending on credits, 4-10 Credits

Anth 699
Thesis Research Projects in Historical Archaeology
Mr Mrozowski and Staff
In this course an MA thesis will be developed from a problem-oriented analysis of documentary and archaeological data. The MA thesis will include a description of the problem in the context of the disciplines of anthropology and history, its application to the data, a description of the analyses undertaken, and their results with reference to the problem. In the conclusion the results of the research project should be discussed in relation to other current research in the field. The MA thesis must be read and approved by three readers, one from History, one from Anthropology, and a third faculty member from a department to be determined.
Prerequisites: Anth 625, Anth 665, Anth 685 and permission of instructor.
6-10 Credits

Human Services

Faculty

Carolyne Arnold, DSc, *Harvard University,* Public Health Policy

George Berkley, PhD, *Tufts University,* Administration

Constance Chan, PhD, *Boston University,* Clinical Psychology

Elba Caraballo, PhD, *Brandeis University,* Gerontology and Social Welfare

Carroy Ferguson, PhD, *University of Rochester,* Counseling

Mark Freeman, PhD, *University of Michigan,* Public Health, Planning

Robert A Garofalo, EdD, *Harvard University,* Culture and Human Services

Jean Thomas Griffin, EdD, *Temple University,* Educational Psychology

Richard Hogarty, PhD, *Princeton University,* Public Policy and Government

James Jennings, PhD, *Columbia University,* Public Policy and Government

Elizabeth Johnson, PhD, *Boston University,* Social Psychology

Margaret Rhodes, PhD, *University of California at Los Angeles,* Ethics and Social Policy

Ralph Rivera, MSW, *Boston University,* Community Organization and Planning

Gary N Siperstein, PhD, *Yeshiva University,* Special Education

Miren Uriarte, PhD, *Boston University,* Sociology

Ann Withorn, PhD, *Brandeis University,* Social Welfare

Bette Woody, PhD, *Massachusetts Institute of Technology,* Public Policy, Organizations and Planning

The Program

The Master of Science Program in Human Services is designed primarily for individuals currently working in the field of human services who wish to expand their professional competence in the analysis, delivery, administration, and planning of human services. The objective of the program is to provide students with an understanding of the history of social welfare in the United States; an understanding of the range of theories of human development and intervention; analytical and problem solving skills; research and evaluation skills; and specific techniques in the delivery and operation of human service programs.

The program is competency based. Students earn competencies through a combination of classroom instructional offerings, directed study under faculty supervision, demonstrated field experience or prior graduate study, and completion of a major independent project. Competency statements stipulate the criteria a student is expected to meet in order to demonstrate learning. The competency statement emphasizes the outcome of learning by describing that outcome in specific terms.

The program is designed to accommodate students who are employed and who wish to pursue their graduate degree through intensive study. In most cases, experienced professionals can earn the degree in two and a half years. Most courses are offered in the evenings and on weekends; some daytime course work, however, is required.

Degree Requirements

The MS in Human Services requires the completion of 18 competencies, the equivalent of 54 credit hours. Students must complete core, concentration, and elective requirements, as well as a major independent project for which the student earns two competencies. Of the eighteen competencies, it is recommended that three be demonstrated through field work. Others may be demonstrated through prior learning and/or prior graduate course work (see below, "Prior Learning").

Core requirements: Six interdisciplinary competencies: HS 601, 602, 603, 606, 624, 642

Concentration requirements: Students must select a major concentration (five competencies) from one of the following areas:

Administration and Management: HS 621, 622, 623, 633, 634

Planning: HS 630, 631, 632, 633, 634

Direct Services: HS 604, 610, 611, 612, 613, 614

Electives: Students choose a minimum of two competencies from among the following: HS 605, 640, 644, 645, 646, 647

Independent Project (required of all students): HS 650 and 651: Policy Analysis/Program Change Project

Prior Learning

Students who enter the program with prior graduate course work and/or substantial professional experience may present these as evidence to satisfy a portion of the degree requirements, up to a maximum of 3 competencies. Of these, a maximum of two may be based on graduate courses.

Field Work

Students are encouraged to use their work sites as bases for learning and demonstrating competencies. It is suggested that students demonstrate at least 3 competencies in the field, either within their own jobs or agencies, or through outside field placement. Certain competencies (e.g. Advanced Intervention) can be demonstrated only in the field.

Work Plan

With the assistance of a faculty advisor, each student develops a plan for learning and demonstrating competencies to meet all requirements. Students are expected to complete three competencies each semester.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The MS in Human Services Admission Committee seeks to admit students with a diversity of backgrounds and educational and professional experiences. Applicants will be recommended for admission on the basis of both academic preparation to pursue graduate studies and appropriate professional experience in human services. Evidence of those qualifications includes:

1. A score on the Miller Analogies Test.
2. A resume of professional activities that demonstrates substantial practical experience (paid or volunteer) in public or community service.
3. Three letters of recommendation, at least one of which is from a supervisor currently working with the applicant in a professional context.

Competencies

HS 601
Human Services Policy
Students will be expected to understand the historical background of social policies as well as the political and social issues involved in the formation and implementation of policy.

HS 602
Ethics in Human Services
Students will be expected to understand some of the chief ethical conflicts and their ethical and political underpinnings in the delivery of human services, as well as the centrality of these conflicts to the evaluation of organizational structure, to program design, to professionalism and to the relationship between worker and client.

HS 603
Race, Culture, and Ethnicity in Human Services
Students will be expected to understand the racial, cultural and ethnic issues in the delivery of human services, including the impact of these issues on organizational structure, program design and the relationship between provider and client.

Human Services

HS 604
Human Development
This competency will require the student to demonstrate the ability to analyze, evaluate, and apply developmental theories of the life span. The student is expected to develop and demonstrate a critical perspective concerning the impact of biological factors, psychological, and sociological factors on the developmental process, and the organization of behavior over the life span.

HS 605
Supervision and Communication
Students will be expected to understand the principles and theories of supervision and social exchange theory, their relationship to the organizational structure of an agency and its goals and tasks, management and leadership styles and methodologies for congruent communication and conflict resolution.

HS 606
Research Methods
Students will be expected to understand the basic principles of research design, statistical analysis, and the key dimensions of validity and reliability in research. Students will demonstrate the ability to critically review research in specialized areas and relate research results to implications for the structure of service delivery and administration.

HS 610
Theories of Behavior and Change
Students will be expected to understand the evolution of different models of behavioral change from theories of human development and to understand the similarity and differences between the assumptions in different models concerning the characteristics of the individual or social unit, the environment, and their interaction. Finally, students will evaluate the translation of models of behavioral change into practice in human service settings.

HS 611
Client Assessment
In every aspect of human services, working with individuals, groups or systems, a human service worker must have the skills necessary to assess a situation in order to decide what response is appropriate. These skills include the ability to observe, to gather information, and to organize that information and present it to others.

HS 612-HS 613
Advanced Intervention
(double weight competency)
The complex interrelation of social, economic, and political forces in our society affects the lives of all citizens. For many individuals and families this complexity creates situations or problems they are unable to deal with or resolve on their own, and for assistance they often turn to human service agencies and workers. Sometimes the legal consequences of individual or family behavior require a human service agency and its workers to help such individuals and families restructure their life situation.

HS 614
Family Systems
Students will be expected to know and understand social and clinical theories of the family, its history, development, structure and functioning in today's society. Knowledge will be demonstrated through the comprehensive and detailed case analysis of two families.

HS 615
Family Intervention
Staff
Intervention with a family on the part of a human services professional is an activity that calls for specialized knowledge and skills. Persons identified as clients or patients by an agency, the family, or themselves are frequently the visible symptoms of what is actually less visible, systematic family trouble. It is important for human service workers to understand the dynamics of family interaction, in order to make intervention effective.
Prerequisite: HS 614.

HS 620
Accounting for Human Services
Human Services managers at all levels in both government and nonprofit agencies must constantly make decisions relating to the financial aspects of the organization. While they don't often need to be accountants themselves, an inability to understand the details of the accounting process often leaves decisions affecting staff, services and recipients in the hands of business or financial personnel who are less well versed in organizational philosophy and goals. This competency requires students to demonstrate skill in and knowledge of the basic systems set up to track and measure the financial aspects of nonprofit and government organizations. It is designed to be useful for students who must use financial information to make decisions for their own organization, as well as for those who make decisions and judgments about other agencies with respect to funding, contracts management or budget review.

HS 621
Personnel Administration in Human Services
Through use of a test, selected readings, discussions and case material, students will study a range of topics important in personnel administration in human services including hiring procedures, personnel policies, employee evaluation, in-service training, government regulation, affirmative action and labor relations.

HS 622
Marketing Human Services
In recent years, administrators in the public and nonprofit sectors have grown increasingly aware that marketing theories and techniques long utilized in the business world can be helpful in assisting their organizations to develop better public relations, raise funds more successfully, and broaden community support. While it is usually not appropriate for public and non-profit organizations to use exactly the same marketing techniques and strategies as business, a balanced marketing approach specifically planned around the needs and objectives of an organization can be essential to maintaining a good public image and a healthy internal climate.

HS 623
Financial Management in Human Services
Knowledge of and control over the financial aspects of an organization are essential to the achievement of organizational goals. Careful management of finances and skill in solving financial problems are important in reducing negative impacts on staff, recipients of service and the community. When human service professionals participate in financial decisions, broader and more creative solutions tend to be developed. This competency requires students to develop skills in understanding and carrying out complex financial tasks common to both public and private nonprofit organizations. It also requires students to analyze the impact of financial decisions on those organizations.

HS 624
Organizational Behavior
Students will review the major theoretical literature on the nature of organizations and behavior in organizations including studies of structure, management style, theories of motivation, individual and work group behavior.

HS 630
Planning in Human Services
Students will be introduced to the theories and methodologies of planning in response to a problem presented by a client group or a problem within a human service agency. Knowledge level skill will be demonstrated in utilizing a planned approach to a problem situation and assessing and adjusting for its impact on the system.

Human Services

HS 631
Human Services Needs Assessment
Students will investigate the variety of methodologies of conducting needs assessment in human services organizations. Through case studies and work on projects, they will develop skills in selecting methodologies, carrying out assessments, critically interpreting data and presenting the results.

HS 632
Evaluation Research
Evaluation research is an important planning tool in helping decision makers analyze the outcomes of policies and programs. The term "evaluation research" is meant to imply a somewhat more sophisticated approach to evaluating programs and policies than the term "program evaluation"; evaluation research utilizes techniques drawn from social science research methods. Whichever terms are used, the effective evaluation of programs and policies is being demanded increasingly by the public, by government officials and by legislatures making decisions about public funding of human services. This competency requires that students demonstrate knowledge of the range of methods available for evaluating programs and policies, and demonstrate the ability to analyze an evaluation of a particular program.

HS 633
Fundraising and Grant Seeking
Students will examine such funding options for human service programs as federal, state, local, fee-for-service and private fundraising. The history of government funding of human services will be reviewed and new alternatives for financing services will be explored, taking into consideration current economic and policy trends. Skills will be developed in strategies for fundraising and in organizing proposals.

HS 634
Computers and Information Systems
Increasingly, human service providers are expected to use computer technology in many of their administrative activities. In management and planning, computers have become almost indispensible in meeting the demands of the reporting and the client verification required for federal and private funding. In addition, microcomputers have given human service managers greater access to information, and thus enabled them to make more knowledgeable decisions. Clearly, the human services manager needs to understand and to develop familiarity with computer systems.

HS 640
Group Dynamics
As a human service provider one is continuously working in or with small groups of colleagues, clients, families, and educational groups on various tasks. The small group, moreover, is a major part of every organization. It is therefore necessary for human service providers to understand the development, dynamics, theories and concepts of group processes. A competent human service provider can observe, diagnose, analyze, plan and work in and with small groups in a constructive and purposeful manner.

HS 642
Statistics in Human Services
Staff
In the field of human services, research studies have been and will continue to be a significant force. Professionals in this field will encounter such studies, as well as evaluations and other types of reports, which base their findings on statistical analyses of data collected from recipients or providers of human services. They may also find it necessary to do their own collection and analysis of data in order to better inform an organizational decision. This competency helps provide students with the requisite statistical skills and some knowledge of their applications in human services.

HS 643
Dispute Resolution in Human Services
Professionals employed by human service agencies inevitably encounter conflict in their work. Conflicts arise from the complex dynamics involving clients, staff, agencies, supervisors, departments, agency directors, and central administrations. There are many techniques, and much research about them, for preventing, managing, and resolving disputes. Students will demonstrate competence in understanding and using these techniques, and familiarity with the research in the field.

HS 644
Family Intervention
Students will examine major theories of intervention with families in order to develop a coherent and realistic method of applying theoretical knowledge in the field. The areas of study are: 1) current theoretical approaches to family intervention; 2) enhancement of skills in assessment, planning, referral, implementation and evaluation, and 3) supervised field work.

HS 647
Strategies for Change
Implementing any desired change in program delivery, or in broader social policy, demands the ability both to analyze systematically the situation requiring change, and to assess the available range of strategic and tactical options. Demonstration of this competency indicates that a student is able to go beyond immediate, short range solutions and to consider a wider spectrum of solutions than is usually deemed relevant to human service work.

HS 650-651
Policy Analysis I & II
(double weighted competency)
The goal of the Master's degree in Human Services is to develop human service workers who have the breadth of background and the skills necessary to enact changes that will improve services to people. This double-weight competency is expected to be a capstone to a student's work, in that it should build on prior skills and should involve outside evaluation by professionals in the field as well as by CPCS faculty. This generic competency requires that part of a student's competence be evident in her or his ability to identify the appropriate policy background necessary for making a particular proposed change, and to explain fully, as well as plan to implement, the desired change. For this reason, each student is asked to submit an individualized plan. This plan, once approved by the CPCS evaluator and the mentor, will serve as the requirement for addressing the competency.

HS 697
Special Topics in Human Services
An advanced course offering intensive study of selected topics in human services. Course content will vary according to the topic, and be announced prior to registration.

HS 697a
Writing for Human Service Agencies
Staff
This course focuses on the specific kinds of writing characteristic of many human service agencies: Letters, memoranda, process reports, grant proposals, grant and research reports. Its goal is to help enable students to write clearly, to edit and organize their own writing, and to approach writing tasks constructively.

Instructional Design

Faculty

William Hansard, BA, *City College of New York*, Television (Art Department)

Philip Hart, PhD, *Michigan State University*, Communication Theory; Administration (College of Public and Community Service)

Ronald Polito, EdD, *Boston University*, Photography (Art Department)

Marilyn Pula, EdD, *Boston University*, Media Resources; Instructional Design (College of Education)

Robert Risse, PhD, *Washington University*, Television (Art Department)

Barbara Signer, PhD, *University of South Florida*, Interactive Video; Computer Applications (College of Education)

The Program

The MEd Program in Instructional Design prepares students as educators and trainers of adults in a variety of settings including business, industry, education, government, and social service. The program meets the needs of both pre-service and mid-career professionals in media, education, and/or training and development, one of the fastest growing professions in the United States.

The multi-disciplinary academic program requires 36 credits to complete. Emphasis in courses is on instructional design, media, communication skills, organizational knowledge, and administration. Theoretical and applied courses concentrate in three areas:

1. media skills and knowledge
2. administrative and organizational knowledge
3. the ability to relate to groups and individuals effectively.

To accommodate both full and part-time students, the program offers evening classes which meet once each week. Non-degree students are invited to select individual courses to meet their career-development or other specialized needs.

Degree Requirements

The 36-credit program, flexibly designed to meet individual needs, combines required and elective courses, includes a field experience for pre-service students, and requires a thesis or instructional design project of all candidates seeking the MEd.

Two courses required of all degree candidates form the basis of the program, and should be completed first. They are:

InsDsg 601 (Introduction to Instructional Design)

InsDsg 602 (The Adult as Learner)

Two other courses are also required:

InsDsg 603 (Selecting and Evaluating Media Resources)

InsDsg 604 (Communication Theory)

Each candidate also chooses a total of eight courses within three areas of concentration from a wide range of graduate offerings throughout the University. These topical areas and examples of courses available include:

Area I—Instructional Strategies
Three courses must be chosen from among courses which explore the methods and materials of teaching. Examples include Art 608, Art 610, InsDsg 605, InsDsg 612, InsDsg 618, Educ 610, Educ 612, and Educ 614.

Area II—Organizational Relationships
Either of the following two courses is required: InsDsg 620, Coun 616.

Area III—Organizational Knowledge
Two courses are required in the area of management or administration, and may be selected from appropriate University offerings.

All students are expected to meet with an advisor each semester for prior approval of course selection.

A full semester (6 credit) field experience, designed to represent a synthesis of learning in the classroom with practice in the field, is an option for all students not currently employed in an area related to the program. Arrangements for field experience placements should be made in consultation with an advisor. Settings chosen will be appropriate to students' interests and abilities. Paid internships may be available. All field experiences will be supervised by a faculty member, and attendance at a weekly seminar is required.

Students employed in areas related to the program may choose two additional electives in lieu of the field experience.

A thesis or instructional design project will also be required of all degree candidates for the MEd. A team of three faculty members, chosen in consultation with the student and advisor, will evaluate the final project or thesis. For additional information please consult the program director.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The MEd Program in Instructional Design invites applications from individuals with a variety of academic and experiential backgrounds who hold a baccalaureate degree from an accredited institution. Admission criteria include:

1. A score on the Miller Analogies Test.
2. Three letters of recommendation from former teachers familiar with the applicant's recent academic work, or from employers familiar with his/her professional ability.
3. An updated resume.
4. A personal interview, while not required, is strongly recommended.

InsDsg 601
Introduction to Instructional Design
Staff
This course provides an introduction to the cognitive and experiential content of the program. The course emphasizes the components of the instructional design model. Various models will be analyzed. Students will be expected to complete, as a final project, a learning module micro-design.
2½ Lect Hrs, 3 Credits

InsDsg 602
The Adult as Learner
Staff
Students will be introduced to the body of knowledge concerning adults as learners. This course focuses on the principles of adult education, learning styles, variables that affect adult learning, motivation techniques, appropriate training methodologies, reinforcement of learning, skill transfer and measurement procedures for identifying learner characteristics.
Prerequisite: Bachelor's degree or permission of instructor.
2½ Lect Hrs, 3 Credits

InsDsg 603
Selection and Evaluation of Instructional Materials
Staff
This course analyzes the factors that determine the selection, evaluation, and utilization of materials used in instructional design. The comparative instructional value of a wide range of print and non-print materials will be studied. At the end of the course students will be able to choose materials on the basis of cost effectiveness, technical quality, teaching-learning mode, physical facilities, and availability of equipment.
Prerequisites: InsDsg 601.
2½ Lect Hrs, 3 Credits

Instructional Design

InsDsg 604
Communication Theory for Organizations
Staff
This course focuses on the study of communication as applied to instructional technology, and on theories of media communication. It will cover audience variables, systems of media analysis, message structure, environmental factors, and the integration of these elements into an efficient communication model.
Prerequisites: InsDsg 601, 602.
3 Lect Hrs, 3 Credits

InsDsg 605
Production of Media Materials
Staff
This course provides a systematic survey of a variety of media formats including overhead projection, visual displays, audio and visual presentations, still and moving photography, and portable video. Aspects of theory include psychological principles and research on media as a teaching mode. Students have the opportunity of applying knowledge and skills to selected areas of media production, especially as they provide solutions to instructional problems.
Prerequisites: InsDsg 601, or permission of program director or instructor.
3 Lect Hrs, 3 Credits

InsDsg 612
Instructional Strategies and the Adult Learner
Staff
This course is designed to assist participants in making classroom training more effective. Emphasis is on instructor roles and tasks, determining learning styles, and selecting appropriate techniques. Techniques focus on stand-up teaching skills including lecture, question and answer, discussion and facilitation, as well as common media formats, role-playing, games and simulations, and case studies.
Prerequisite: Graduate standing.
3 Lect Hrs, 3 Credits

InsDsg 620
Interpersonal Skills and Group Dynamics
Staff
This course introduces the students to the body of knowledge governing interpersonal, intrapersonal, and public communication. Through lectures, readings, and laboratory method, students will learn human relations skills for effectiveness in personal and career situations. The course covers topics including perception, listening, conflict resolution, and group dynamics.
Prerequisites: InsDsg 601 and 602, or permission of program director.
2½ Lect Hrs, 3 Credits

InsDsg 696
Independent Study
Staff
The comprehensive study of a particular topic or area in instructional media, as determined by the needs of the individual student. The student will work under the guidance and supervision of the instructor.
Prerequisite: Permission of graduate program director.
3 Lect Hrs, 3-6 Credits

InsDsg 697
Special Topics in Instructional Media
Staff
An advanced course offering intensive study of selected topics in instructional media. Course content will vary according to the topic, and will be announced prior to registration.
3-6 Lect Hrs, 3-6 Credits

The following graduate-level courses in the Art Department are open to students in the Instructional Design Program.

Art 608
Photographic Principles for Instructional Design
Staff
This course, intended for those at a low to moderate level of photographic skill, concentrates on the role of single and multi-image photography in instructional design. The course examines such principles of photographic communication as perception, visual learning, and visual design; and analyzes examples of photography in instructional applications. Students are expected to apply these principles through photographic exercises and projects. While some basic photographic technology is covered, it is not a beginning or intermediate course in "photography". Its principal intent is to provide students with sufficient knowledge—supported by the necessary skills—for the appropriate use of photography in the instructional process, and for communicating effectively when working with a professional photographer. Access to an adjustable 35mm camera is required. All work will use the 35mm slide format.
Prerequisite: InsDsg 601.
3 Credits

Art 610
Television Principles for Instructional Design
Staff
This course provides a comprehensive introduction to television production theory and technique, including the study of principles for analyzing and synthesizing information, and of some basic video instructional formats. The goal is to equip those responsible for developing instructional materials with the skills they need in order to work with video professionals in creating, designing, and producing instructional video programs.
Prerequisite: InsDsg 601.
2½ Lect hrs, 2 Lab Hrs, 3 Credits

Mathematics*

Faculty

Bernice Auslander, PhD, *University of Michigan*, Commutative Ring Theory

Alfonso Azpeitia, PhD, *University of Madrid*, Complex Analysis and Mathematical Programming

Ethan Bolker, PhD, *Harvard University*, Combinatorial Analysis, Queuing Theory, Performance Modeling

James S Byrnes, PhD, *Yeshiva University*, Analysis

Daniel Comenetz, PhD, *Brandeis University*, Algebraic Geometry

Patricia Davidson, PhD, *Harvard University*, Mathematics Education

Peter Fejer, PhD, *University of Chicago*, Logic, Theoretical Computer Science

Matthew Gaffney, PhD, *University of Chicago*, Differential Geometry

Colin Godfrey, PhD, *Harvard University*, Algebra

Michael Greeley, PhD, *Northeastern University*, Differential Topology

Hans Herda, PhD, *Wayne State University*, Analysis

Guy Hogan, PhD, *Ohio State University*, Group Theory

Herbert Kamowitz, PhD, *Brown University*, Functional Analysis

Linda Kime, PhD, *Cornell University*, Microcomputers, Algebra

George Lukas, PhD, *Brandeis University*, Programming Languages, Software Engineering

Joan Lukas, PhD, *Massachusetts Institute of Technology*, Computability Theory, Formal Languages, Compilers

John A Lutts, PhD, *University of Pennsylvania*, Topology, History of Mathematics

Robert A Morris, PhD, *Cornell University*, Text Processing, Document Preparation Systems

Some Nath Mukherjee, PhD, *BH University (India)*, Functional Analysis and Transform Calculus

Kenneth Newman, PhD, *Cornell University*, Data Structures, Computer Mathematics, Algebra

Elizabeth O'Neil, PhD, *Harvard University*, Operating Systems, Applied Mathematics

Stephen K Parrott, PhD, *University of Michigan*, Functional Analysis

Geza Schay, PhD, *Princeton University*, Probability

Robert Seeley, PhD, *Massachusetts Institute of Technology*, Partial Differential Equations

Dan Simovici, PhD, *University of Bucharest*, Formal Languages, Complexity Theory, Semantics of Programming Languages

Dan Stefanescu, PhD, *Harvard University*, Software Engineering, Programming Languages

Taffee Tanimoto, PhD, *University of Pittsburgh*, Geometry

Richard Tenney, PhD, *Cornell University*, Computer Communication Protocols

Richard Truesdell, PhD, *Boston College*, Measurement and Evaluation

Dennis Wortman, PhD, *Massachusetts Institute of Technology*, Functional Analysis

*At the time of the publication of this bulletin, this program was under review, and applications for admission to the program were not being accepted.

The Program

While the MA Program in Mathematics offers the opportunity for advancement in mathematical knowledge to all qualified students, it has three major objectives:

A. To prepare students for graduate work in pure mathematics at the doctoral level.

B. To provide professional preparation for teaching mathematics up to the two-year college level. In this connection, students may combine graduate courses in mathematics with offerings in secondary education.

C. To offer the opportunity for professional advancement to teachers already in service.

Degree Requirements

To earn a Master's degree in mathematics, a student must:

1. Pass ten courses (30 credits) at least six of which must be numbered 600 or above, and which must include Math 611 (Modern Algebra I), 621 (Complex Variables I), 623 (Real Variables I), and 625 (Topology I) or their equivalent. Math 601 (Advanced Linear Algebra) or its equivalent will be a requirement for students having less than one year of linear algebra. No more than three of the ten courses counted toward the Master's degree may be taken outside the program. They must be graduate courses and two must be related to mathematics. With the approval of the graduate program, three credits, substituting for one of the elective courses, may be earned by participating in a graduate seminar which will involve independent reading and expository work both oral and written.
2. Pass the Master's Written Qualifying Exam. This exam consists of two parts, each of which lasts four hours; one part covering algebra and topology, and the other, analysis. Knowledge of the material through the level of Math 611, 621, 623, and 625 should be sufficient for passing the exam.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

At least 18 semester credit hours in undergraduate mathematics beyond the content of differential and integral calculus are normally required of each candidate entering the Master's program. A one-year course in advanced calculus and a one-year course in linear algebra are desirable.

Math 601
Advanced Linear Algebra
Staff
Linear and multi-linear algebra. Linear transformations. Spectra theory. Canonical forms. Dual spaces. Tensor products. Exterior algebra.
Prerequisite: Math 261 or permission of instructor.
3 Lect Hrs, 3 Credits

Math 611-612
Introduction to Modern Algebra I and II
Staff
Groups, rings, algebras, fields, modules. Tensor products. Homological algebra.
Prerequisite: Math 360 or permission of instructor.
3 Lect Hrs per semester, 3 Credits per semester

Math 621-622
Theory of Functions of a Complex Variable I and II
Staff
Linear transformations of a complex variable. Power series and elementary functions. Holomorphic functions and Cauchy's Theorem. Theory of residues. Isolated singularities. Conformal mappings. Entire and meromorphic functions and their representations by means of products and partial fractions. Elliptic functions. Analytic continuation and Riemann surfaces. Algebraic functions.
Prerequisites: Math 450 and 475 or permission of instructor.
3 Lect Hrs per semester, 3 Credits per semester

Math 623-624
Theory of Functions of a Real Variable I and II
Staff
The real number system. Lebesgue measure and the Lebesgue integral. Differentiation. The classical Banach Spaces, general measure, and integration theory.
Prerequisite: Math 450 or permission of instructor.
3 Lect Hrs per semester, 3 Credits per semester

Mathematics

Math 625-626
Topology I and II
Staff
Topological spaces, classification, separation properties, Cartesian products, mappings and continuity, connectedness, general convergence, compactedness, function spaces, introduction to homotopy theory. Algebraic topology.
Prerequisite: Math 450 or permission of instructor.
3 Lect Hrs per semester, 3 Credits per semester

Math 627-628
Differentiable Manifolds I and II
Staff
Topics to be selected from: differentiable manifolds, tangent spaces, tangent bundles, flows and vector fields. Lie derivatives, differential forms, generalizations of line and surface integrals. Divergence theorem and Stokes' theorem. Riemannian manifolds, Riemann surfaces. Relationships to vector analysis and to differential geometry.
Prerequisites: Math 321, 475 and 665 or permission of instructor.
3 Lect Hrs per semester, 3 Credits per semester

Math 629
Stochastic Processes I
Staff
Probability spaces, measures, random variables, various modes of convergence, laws of large numbers and of the iterated algorithm. Central limit theorem, conditioning martingales.
Prerequisite: Math 623 or permission of instructor.
3 Lect Hrs, 3 Credits

Math 630
Stochastic Processes II
Staff
Processes with independent increments. Markov chains, stationary processes, continuous parameter Markov chains, diffusion processes, sample paths, separability, semigroups, boundaries.
Prerequisite: Math 629 or permission of instructor.
3 Lect Hrs, 3 Credits

Math 631
Partial Differential Equations I
Hamilton-Jacobi Theory for equations of first order distributions. Fourier integrals of distributions. Sobolev spaces of distributions.
Prerequisites: Math 310, 321, and 450 or permission of instructor.
3 Lect Hrs, 3 Credits

Math 632
Partial Differential Equations II
Staff
Elliptic equations, Garding's inequality, smoothness of solutions, solutions of the Dirichlet problem, hyperbolic equations, the Cauchy problem.
Prerequisite: Math 631 or permission of instructor.
3 Lect Hrs, 3 Credits

Math 697A
Special Topics in Mathematics
Staff
An advanced course offering intensive study of selected topics in mathematics. Course content will vary according to the topic and will be announced prior to registration.
3-6 Lect Hrs, 3-6 Credits

Nursing

Faculty

Kristine B Alster, EdD, *Boston University,* Medical/Surgical Nursing; Holistic Health, Teaching

Grayce S Garner, EdD, *Columbia University,* Psychiatric/Mental Health Nursing

Susan Haussler, EdD, *Vanderbilt University,* Pediatric Nursing, Teaching

Anne K Kibrick, EdD, *Harvard University,* Nursing Administration

Catherine S Lindenberg, DrPH, *Johns Hopkins University,* International Health, Family Health

Sherry L Merrow, EdD, *Northeastern University,* Medical/Surgical Nursing; Computers in Nursing

Frances L Portnoy, PhD, *Brandeis University,* Psychiatric Nursing; Gerontology

Myron R Segelman, PharmD, *Creighton University,* Pharmacology; Pathophysiology

The Program

The MS program in nursing prepares nurses to function in leadership roles in either teaching or administration. Tracks are offered in both of these areas; each provides students with a firm basis in theory, practice, and research, and with a concentration in one clinical area. Nurses who come to the program with a strong clinical background develop a knowledge of current literature in the field, and an ability to exercise leadership in the rapidly evolving field of nursing. The program offers students a solid clinical base, and advanced course work in administration, management, and teaching.

Degree Requirements

A total of 42 credits will be required of all students, distributed as follows:

A. Core Courses
   1. Advanced Nursing Concepts in Theory and Practice (Nurs 601), 3 credits
   2. The Research Process in Nursing (Nurs 602), 3 credits
   3. Application of Research to Nursing Practice (Nurs 603), 3 credits

B. A clinical concentration: Four courses (including one practicum), 12 credits

C. Functional area of administration or teaching: Three courses (including one practicum), 12 credits

D. Electives,* 9 credits

Full-time students can expect to complete the program in three semesters. Those attending part-time can expect to complete it in six to nine semesters. Full-time students take courses in the following sequence:

Semester I	
Nurs 601	3 credits
One functional area course	3 credits
One clinical concentration course	3 credits
One general elective	3 credits
	12 credits
Semester II	
Nurs 602	3 credits
One functional area elective	3 credits
One clinical concentration course	3 credits
One clinical concentration area practicum	3 credits
One general elective	3 credits
	15 credits
Semester III	
Nurs 603	3 credits
One clinical concentration course	3 credits
One functional area practicum	6 credits
One general elective	3 credits
	15 credits
TOTAL	42 credits

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Prospective graduate students in nursing will meet the general admission requirements for graduate study at UMass/Boston, and these specific criteria for admission to the Graduate Program in Nursing:

1. A bachelor's degree from an NLN accredited school of nursing.
2. A current Massachusetts license in nursing.
3. Evidence of one or more years of recent professional practice.
4. Completion of a course in introductory statistics.
5. Completion of a course in physical assessment.
6. Submission of Graduate Record Examination (GRE) scores for aptitude tests.

*Electives may be selected from within the program or from approved graduate offerings of other UMass/Boston programs, to meet individual learning objectives.

Course Descriptions

New courses other than those listed below, and new areas of clinical concentration are currently being added to the curriculum. Interested persons should contact the program directly for the most up-to-date information on the full range of academic offerings.

Core Courses

Nurs 601
Advanced Nursing Concepts in Theory & Practice
Staff
An analysis of the major concepts in nursing and of the contributions made by theoretical frameworks from nursing and related disciplines to advanced nursing practice. Each student selects a theoretical or conceptual framework to evaluate. The course focuses on the nature and use of inquiry in the development and refinement of nursing theory.
3 Lect Hrs, 3 Credits

Nurs 602
The Research Process in Nursing
Staff
This course acquaints the student with procedures and methodologies used both in nursing research and in other areas of analysis of the health care system. Emphasis is placed on computer applications, including the use of microcomputers and statistical software packages associated with mainframe computers. The course will also survey research design strategies in nursing, and the overall status of nursing research.
3 Lect Hrs, 3 Credits

Nurs 603
Application of Research to Nursing Practice
Staff
This course is a continuation of Nursing 602. Students apply an appropriate strategy to a problem of their choice in either a clinical, administrative, or teaching area of specialization. This project includes class discussion of a research topic focusing on methodology and data analysis.
Prerequisite: Nurs 602, or equivalent with permission of instructor.
3 Lect Hrs, 3 Credits

Nurs 607
Computers in Nursing
Staff
This course focuses on computer use in all aspects of nursing: nursing practice, administration, education, and research. Discussions include historical background, legal and economic issues associated with the use of computers in nursing, and some of the social and ethical implications. The course also provides practical computer experience.
Prerequisite: Graduate standing in the program, or permission of instructor.
3 Lect Hrs, 3 Credits

Nursing

Functional Area Courses

Nurs 611
Administration in Health Care
Staff
This course focuses on nursing administration as a dynamic process directed towards assuring optimal nursing care for patients and communities in a variety of health care settings; on a critical analysis of the philosophy, purpose, objectives, and management of health care agencies; on leadership styles that can facilitate or impede goal attainment; on the development of personnel and the use of resources; and on research related to administration in general and specifically to nursing administration.
3 Lect Hrs, 3 Credits

Nurs 621
Teaching in Health Care
Staff
The course focuses on three areas: the development, implementation, and evaluation of curriculum. In curriculum development, it examines the importance of concepts and theories in determining an academic program's philosophy, framework, and objectives; and looks at how these in turn determine the selection and sequencing of learning experiences. In implementation, the course presents and analyzes methodologies of teaching in both clinical and classroom settings. And in the area of evaluation, the course makes use of learning theory and philosophies of teaching to help students develop appropriate evaluation methods.
3 Lect Hrs, 3 Credits

Clinical Concentration Area Courses

Nurs 641
Family Nursing Theory
Staff
Students engage in a critical study of current and emerging theories of family structure and function. Emphasis is on issues and stressors that have relevance for nurses caring for childbearing families. Policy issues relating to family health care are addressed from national, international, and transcultural perspectives.
3 Lect Hrs, 3 Credits

Nurs 651
Nursing the Well Elder
Staff
This course is an introduction to gerontological nursing. It focuses on how nursing relates to the physiological, psychological, social, and behavioral aspects of the aging process. Nutritional and pharmacological aspects of geriatric health care are also addressed.
3 Lect Hrs, 3 Credits

Nurs 652
Nursing the Acutely Ill Elder
Staff
This course concentrates on the needs of the elder with an acute illness requiring hospitalization. Assessment, management, and evaluation in the acute care setting are discussed with emphasis on the special needs of the older adult in this setting. Acute conditions affecting the elder are discussed, together with special nutritional and pharmacological consideration of these conditions. The course also addresses neurological and mental health problems of the elder in acute care settings. An interdisciplinary approach to geriatric nursing provides the framework for the course.
3 Lect Hrs, 3 Credits

Nurs 653
Nursing the Frail Elder
Staff
This course focuses on the needs of the frail elderly, on the human concerns of death and loss, and on chronic illness and nursing in the long-term care setting. Topics include the assessment, management, and evaluation of multiple chronic conditions, and the psychosocial needs of the elderly.
3 Lect Hrs, 3 Credits

Nurs 696
Independent Study
Staff
Students wishing to enroll in this course should present to the faculty a well-defined problem for investigation. Plans for advanced study should be established at the beginning of the semester during which the student wishes to take the course. The study will be conducted in consultation and collaboration with the student's faculty advisor, and documented in a report at the end of the semester.
Prerequisites: 6 graduate credits in Nursing and permission of the graduate program director.
Hrs by arrangement, 1-3 Credits

Practica

Nurs 698a
Practicum: Administration in Nursing
Staff
Exploration of the administrative sub-system in a complex health care delivery system. Students are given individualized experience in analyzing administrative situations, developing plans of action for the delivery of quality nursing care, and participating in their implementation and evaluation.
Prerequisite: Nurs 611.
3 Sem Hrs, 9 Field Placement Hrs, 6 Credits

Nurs 698b
Practicum: Teaching in Nursing
Staff
Students are assigned to preceptors (faculty members or staff development specialists) and participate in classroom and clinical teaching. Students conduct clinical conferences, informal seminars, evaluation conferences, and formal presentations. A weekly seminar focuses on issues related to planning, guiding, and evaluating learning experiences.
Prerequisite: Nurs 621.
3 Sem Hrs, 9 Field Placement Hrs, 6 Credits

Nurs 698c
Practicum in Clinical Concentration Area
Staff
Students will be placed in a clinical setting with a preceptor. Clinical sites and preceptors may be in primary, secondary, or tertiary level of care facilities and are selected on the basis of students' individual learning objectives.
1 Sem Hr, 6 Clinical Hrs, 3 Credits

Nurs 699
Final Project
Staff
Under the supervision of a faculty advisor, the student will develop and implement a scholarly project.
Prerequisite: Nurs 603 and permission of graduate program director.
Hrs by arrangement, 3 Credits

Applied Physics

Faculty

Marvin M Antonoff, PhD, *Cornell University,* Theoretical Solid State Physics

Leonard A Catz, PhD, *Hebrew University of Jerusalem,* Experimental Atomic and Nuclear Spectroscopy

Edward S Ginsberg, PhD, *Stanford University,* Theoretical Elementary Particle Physics

Peter Gordon, PhD, *Brandeis University,* Quantum Measurement Theory

Donald H Lyons, PhD, *University of Pennsylvania,* Theoretical Solid State Physics

Harold P Mahon, PhD, *University of Washington,* Energy Concerns, Experimental Magnetic Resonance, Physics of Semiconductors

Arthur W Martin, PhD, *Stanford University,* Theoretical Elementary Particle Physics

Benjamin R Mollow, PhD, *Harvard University,* Theoretical Quantum Optics

Martin Posner, PhD, *Princeton University,* Biophysics, Cell Physiologic and Molecular Studies

D V G L N Rao, DSc, *Andhra University of India,* Experimental Laser Research, Nonlinear Optics

George Salzman, PhD, *University of Illinois,* Theoretical Research in General Relativity, Science for Humane Survival

Nareshchandra P. Shah, PhD, *Stanford University,* Experimental Low Temperature Physics, Positron Annihilation

John R Shane, PhD, *Massachusetts Institute of Technology,* Experimental and Theoretical Solid State Physics

The Program and Facilities

The Applied Physics Program is intended primarily to prepare students for rewarding technological careers in industrial and government research laboratories, although it also provides strong preparation for subsequent training at the doctoral level. The program emphasizes the development of practical laboratory skills, through broad experience in experimental course work, and the mastery of the fundamental areas of theoretical physics at the level appropriate to the master's degree. Auxiliary skills in computer programming will also be developed. The program maintains a close interaction with industrial and government research laboratories in the greater Boston area.

Following the initial year of course work, qualified students may opt for an internship placement in an industrial research laboratory in the area. These paying positions provide further training and useful job experience in preparation for a technological career. Students who choose not to participate in an internship may complete the requirements for the master's degree through a supervised thesis project in the research laboratory of a member of the faculty.

The Physics Department is located in the large and well-equipped Science Building at the Harbor Campus. Among its resources are ample teaching and research laboratories, computing facilities, electronics and machine shops.

Research laboratories include facilities and equipment for:

- ultrasonic spin resonance
- low temperature studies
- quantum electronics
- nuclear spectroscopy
- millimeter-wave magnetic resonance
- biophysics

Degree Requirements

Each student must complete 1) seven courses, as follows: three one-semester laboratory courses, three one-semester theoretical courses, and one elective course, also in applied physics, to be chosen in consultation with his or her faculty advisor, totalling, at 4 credits each, 28 credits; and 2) either an internship at an off-campus research laboratory or an on-campus thesis project, either of which, when successfully completed, will earn credit equivalent to two courses. In exceptional cases, with prior approval of the program, a student can graduate with nine courses (substituting two additional courses for the internship or thesis requirement), which should include at least five courses from the applied area and three theoretical courses.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

An applicant for admission to the Graduate Program in Applied Physics should present adequate evidence of his or her preparation and ability to do graduate work. Normally a bachelor's degree with a major in physics is required, though in certain instances other equivalent preparation may be acceptable. For applicants now or recently in college, the three letters of recommendation should come from professors in the field of physics or in closely related fields. For an applicant who has been working in scientific research laboratories for several years it may be more valuable to have one or more of the letters from senior scientists who are familiar with the applicant's work. It is also recommended, but not required, that an applicant plan a visit to the Department for informal contacts with the faculty and to become acquainted with the research facilities.

Applied Physics

Phys 600
Electronic Instrumentation I— Analog
Staff
A lecture and laboratory course in analog electronics. Emphasis is placed on pragmatic and intuitive approaches to analog electronic circuit designs. A supervised independent project illustrating an aspect of basic analog electronics is required of each student.
Prerequisite: Graduate standing or permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

Phys 601
Electronic Instrumentation II—Digital
Staff
A lecture and laboratory course to provide understanding of digital electronics and microprocessors. Emphasis will be placed on digital logic components, digital circuit design, and techniques for incorporating microprocessors and microcomputers into laboratory experiments.
Prerequisite: Graduate standing or permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

Phys 602
Laser Optics Laboratory
Staff
A lecture and laboratory course to provide a working understanding of modern optics, lasers and applications. Topics include optical resonators, solid state, gas and semiconductor lasers, tunable dye lasers, non-linear optics and spectroscopy applications. Selected topics, which may vary from year to year according to the interests of the staff and recent developments in technology, will stress practical instrumentation as well as relevant theory.
Prerequisite: Permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

Phys 603
Nuclear Radiation Physics and Biophysics Laboratory
Staff
A laboratory-based course to illustrate the theory and experimental techniques utilized in nuclear radiation physics and biophysics. Topics include modes of production of nuclear radiation (charged particles, electromagnetic, neutrons), interaction of radiation with matter (including biological tissue), instruments and techniques for radiation detection and spectroscopy, radiation protection and safety, and the use of radioisotopes in physical, chemical and biomedical research. Selected topics may include: neutron activation analysis, X-ray fluorescence, the Mossbauer effect, radioimmunoassay techniques utilizing radioisotopes, computer assisted tomography (CAT), and experiments on the interaction of radiation with tumor cells.
Prerequisite: Permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

Phys 604
Cryogenics and Vacuum Technology
Staff
A lecture and laboratory course to provide a working understanding of modern practice in cryogenics and vacuum technology. Topics include low temperature properties of materials, gas purification, separation and liquefication systems, instrumentation for measurement of temperatures and pressure and vacuum technology. Selected topics, which may vary from year to year according to the interests of staff and recent developments in technology, will stress practical instrumentation and applications.
Prerequisite: Permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

Phys 605
Energy Laboratory
Staff
A lecture and laboratory course focusing on small scale technology and methods for improving the efficiency of energy use. Topics representing current activities of the staff and student interests may include: methods for passive and active solar collection, computer based instrumentation techniques, energy auditing of industrial processes, alternative techniques for saving energy in residential buildings, and computer modeling of building energy performance and the effect of parametric modifications to the envelope, HVAC and other energy systems of commercial buildings.
Prerequisite: Permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

Phys 606
Nuclear Reactor Physics
Staff
A lecture and laboratory course on the theory and operation of nuclear reactors for research and/or power generation. Associated topics in neutron physics include measurement of the velocity distribution of thermal neutrons in a nuclear reactor using a beam chopper; Bragg Diffraction of neutrons; measurement of thermal and epi-thermal neutron absorption cross-sections; neutron activation analysis. All reactor experiments are carried out at the MIT Research Reactor and include studies on subcritical neutron multiplication, control rod reactivity calibration from reactor period measurement, and reactor poisons. Theoretical topics include systematics of nuclear binding energies, theory of nuclear fission, and the theory of operation of homogeneous thermal nuclear reactors. Radiation safety topics include radiation dosimetry and radiation shielding.
Prerequisite: Phys 603 or permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

Phys 608
Biophysical Instrumentation
Staff
A lecture and laboratory course on the application of microcomputers and microprocessor-based electronics to laboratory experiments in the biological and physical sciences. Emphasis is on techniques for interfacing the microcomputer to laboratory experiments for automated data acquisition, data reduction and analysis, information display and real-time control of experiments. Also listed as Biology 608.
Prerequisite: Graduate standing or permission of instructor.
2 Lect Hrs, 4 Lab Hrs, 4 Credits

Phys 609
Physics of Medical Imaging
Staff
General introduction to the physical principles involved in various medical imaging modalities, including x-ray imaging, x-ray tomography, radionuclide imaging, ultrasonic imaging, nuclear magnetic resonance imaging.
Prerequisite: Graduate standing or permission of instructor.
4 Lect Hrs, 4 Credits

Phys 610
Topics in Medical Imaging
Staff
This course will focus on an in-depth study of specific topics in the various medical imaging modalities.
Prerequisite: Phys 609 or permission of instructor.
4 Lect Hrs, 4 Credits

Phys 611
Theory of Classical Mechanics and Fluid Mechanics
Staff
Principles of classical mechanics. Generalized coordinates, Lagrangian and Hamiltonian formulations, variational principles, multiple periodic systems, continuous media, fluid mechanics.
Prerequisite: Permission of instructor.
4 Lect Hrs, 4 Credits

Phys 612
Electromagnetic Theory
Staff
A lecture course to develop electromagnetic theory and to treat various applications. Topics include Maxwell's equations in vacuum and in material media, electromagnetic theory of continuous media, reflection, refraction, diffraction and radiation of electromagnetic waves. Applications will be selected from such topics as wave guides and resonant cavities, and magnetohydrodynamics and plasma physics.
Prerequisite: Permission of instructor.
4 Lect Hrs, 4 Credits

Applied Physics

Phys 613
Quantum Mechanics, Atomic and Molecular Physics
Staff
A lecture course on the fundamental principles and applications of the quantum theory of matter. Topics include bound systems (potential well harmonic oscillator, hydrogen atom), angular momentum, spin, identical particles, the periodic table, exchange forces, chemical bonding, linear vector spaces, perturbation theory. Other topics, e.g., magnetic resonance, symmetry groups, elementary particles, will be selected according to student and faculty interests.
Prerequisite: Permission of instructor.
4 Lect Hrs, 4 Credits

Phys 614
Thermodynamics and Statistical Mechanics
Staff
A lecture course on the principles of thermodynamics and statistical mechanics. Topics include: fundamentals of thermodynamics, first and second laws, thermodynamic potentials, phase transitions, classical kinetic theory, classical statistical mechanics, and quantum statistical mechanics. Applications of the principles will be made to physical, chemical, and biological systems of special or current interest.
Prerequisite: Permission of instructor.
4 Lect Hrs, 4 Credits

Phys 615
Solid State Physics
Staff
The application of quantum mechanics to the theory of the solid state. Topics include periodic structures, lattice waves, band theory of solids, dynamics of electrons in solids and magnetic resonance. Some applications of the theory to semi-conductor devices are made.
Prerequisite: Permission of instructor.
4 Lect Hrs, 4 Credits

Phys 616
Mathematical Methods for Physicists
Staff
A course in intermediate mathematics with applications to analytical and quantum mechanics, and electromagnetic theory. Selected topics from vector analsis, tensor algebra, linear algebra and group theory, functions of a complex variable, second-order differential equations, Fourier series and transforms, calculus of variations.
4 Lect Hrs, 4 Credits

Phys 621
Physics of Semiconductor Materials and Devices
Staff
A lecture and laboratory course on quantum and statistical mechanics of the semiconductors important in contemporary solid state devices. The understanding of semiconductor devices is related to the underlying physical principles of semiconductor physics. Topics include theory of electron and hole transport; scattering and recombination under equilibrium and non-equilibrium conditions; theory of electrical, thermal, and optical properties of semiconductors. The laboratory involves measurements to characterize carrier properties in different semiconductor materials. Topics may vary according to interests of the staff and recent developments in technology.
Pre- or Co-requisites: Phys 613 and 615, or permission of instructor.
3 Lect Hrs, 2 Lab Hrs, 4 Credits

Phys 622
Solid State Electronic Devices
Staff
A lecture course on the physical principles and fabrication technology of modern solid state electronic devices. Among the devices to be studied are field, junction, and avalanche effect devices, solid state lasers, light-emitting diodes, and radiation detecting devices.
Prerequisite: Phys 621 or permission of instructor.
4 Lect Hrs, 4 Credits

Phys 680
Readings in Physics
Staff
An opportunity for qualified graduate students to pursue advanced independent study of specialized topics in Applied Physics, with guidance of a faculty member.
Prerequisite: Permission of the department.
Hrs by arrangement, 3-6 Credits

Phys 690
Projects in Physics
Staff
Qualified graduate students can pursue advanced independent projects in Applied Physics with the guidance of a faculty supervisor.
Prerequisite: Permission of the department.
Hrs by arrangement, 3-6 Credits

Phys 694
Master's Internship
Staff
Internship in collaboration with industry in the greater Boston area. Requires a faculty supervisor in physics department.
Prerequisite: Permission of the department.
Hrs by arrangement, 3-6 Credits

Phys 697
Special Topics in Applied Physics
Staff
The study of a particular topic in applied physics, such as nuclear reactor physics, semiconductor device physics, superconductivity, magnetic resonance.
Prerequisite: Permission of Instructor.
4 Lect Hrs, 4 Credits

Phys 699
Master's Thesis Research
Staff
Prerequisite: Permission of the department.
Hrs by arrangement, 3-6 Credits

Public Affairs

Faculty

Irving H Bartlett, PhD, *Brown University,* American Culture (American Civilization Program)

Edmund Beard, PhD, *Columbia University,* Public Policy (John W McCormack Institute of Public Affairs)

Barry Bluestone, PhD, *University of Michigan,* Political Economy (John W McCormack Institute of Public Affairs)

Albert Cardarelli, PhD, *University of Pennsylvania,* Sociology (John W McCormack Institute of Public Affairs)

Louis DiNatale, JD, *University of Connecticut,* Politics (John W McCormack Institute of Public Affairs)

Sandra Elman, PhD, *University of California at Berkeley,* Higher Education Administration and Planning (John W McCormack Institute of Public Affairs)

Dan Fenn, MA, *Harvard University,* International Relations (John W McCormack Institute of Public Affairs)

Murray Frank, PhD, *Brandeis University,* Social Policy (John W McCormack Institute of Public Affairs)

Zelda Gamson, PhD, *Harvard University,* Sociology, Higher Education Policy (John W McCormack Institute of Public Affairs)

Richard Hogarty, PhD, *Princeton University,* State and Urban Politics (College of Public and Community Service)

Robert Kuttner, MA, *University of California at Berkeley,* Political Science (Political Science Department)

Ernest Lynton, PhD, *Yale University,* Higher Education Policy (John W McCormack Institute of Public Affairs)

Joseph McHugh, PhD, *Michigan State University,* Public Finance and Budgeting (Accounting and Finance Department)

Michael A Novak, PhD, *University of Cincinnati,* Organizational Behavior (Management Department)

Michael Potepan, PhD, *University of California at Davis,* Economics (Economics Department)

Phillip L Quaglierl, PhD, *Stevens Institute of Technology,* Human Resources Management (Management Department)

Henry J Raimondo, PhD, *University of Wisconsin at Madison,* Economics (Economics Department)

Joseph Slavet, PhD, *Syracuse University,* Public Policy (Boston Urban Observatory; John W McCormack Institute of Public Affairs)

Raymond Torto, PhD, *Boston College,* Economics, Public Finance (John W McCormack Institute of Public Affairs)

The Program

The Master of Science in Public Affairs Program focuses on three broad goals: to provide students with a detailed, accurate picture of the political and economic environments on the national, state, and local levels; to give them needed historical and cultural perspectives on public life in the region; and to insure that they have the kind of technical, professional, analytical, and managerial skills needed to function effectively in the public realm. The program also includes intensive analyses of current policy issues, and intentionally concentrates on topics relating to metropolitan Boston, Massachusetts, and New England. Students are normally sought who are currently employed and who have had several years' experience in the public, private, and not-for-profit sectors, although students who have just completed an undergraduate degree are also considered. Those coming from the private sector usually hold or aspire to positions of authority in their organization's community relations, governmental affairs, or long-range strategic planning divisions. As most students are employed full time, the program operates on an evening and weekend schedule. In addition to the faculty members listed above, the program also draws on other faculty from throughout the University.

Curriculum

The program offers courses grouped in the following five areas:

1. The New England political and economic environments.
2. History, culture, and policy in New England.
3. Public management, organizational behavior, public budgeting and financial management, and program evaluation.
4. Analytical skills for policy makers.
5. Issue and policy analysis.

Degree Requirements

Thirty-eight graduate credits are required to complete the program. These credits are earned by completing nine three-credit courses distributed among the areas noted above, eight one-credit weekend intensive modules (two per semester for four semesters), and a final case study seminar which carries three credits.

The curriculum for the MS in Public Affairs is highly structured. Students are expected to proceed through the program as a group, taking all courses in the proposed sequence. In order to accommodate students who have already had graduate training in one or more of these areas, the program allows students to transfer up to two equivalent courses into the program. In addition, students may take up to two independent study courses in place of required courses that have been completed elsewhere.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Each student must submit a completed application form, three letters of recommendation, a resume, Graduate Record Exam (GRE) scores, and all undergraduate and graduate transcripts.

PbAff 601
The New England Political Environment
Staff
Introduction to the key contemporary systems that now constitute the environment in which legislative and executive policy-making and implementing processes work. This course is designed to provide a thorough understanding (in theory and practice) of: where, how, and by whom policy is made and implemented; how the process is/can be influenced; who pays and who benefits; and how to evaluate results (intended and actual).
3 Lect Hrs, 3 Credits

PbAff 602
The New England Economic Environment
Staff
This course introduces the student to the theory and tools of regional economies as a framework for analyzing policy issues. The economic and fiscal structure of Massachusetts is studied to identify the inner and outer workings of the Massachusetts economy vis-a-vis New England and the nation. The latter part of the course focuses on the economics of major issues facing policy makers. Such issues include public and private housing, health care costs, public pensions, fiscal and economic competitiveness and the economics of the capital city, Boston.
3 Lect Hrs, 3 Credits

PbAff 603
Foundations of American Culture
Staff
The module begins with discussion of the culture concept and then concentrates on three traditions within our culture that have decisively shaped American values, behavior and institutions ever since the first settlements: Puritanism, a "liberal consensus" (belief in constitutional self-government and private property), and individualism.
Hrs by arrangement, 1 Credit

Public Affairs

PbAff 604
A Changing American Culture
Staff
This module will require students to consider the changes taking place in the American family and life style, in the workplace, and in political behavior. How did policy making at the national and local levels contribute to the American record of spectacular growth? What were the human and environmental costs? To what extent can policy makers today expect to have to cope with cultural discontinuity? If post-industrial society is upon us, how will this affect the management of public and private institutions?
Hrs by arrangement, 1 Credit

PbAff 605
The Public Interest
Staff
This module will be devoted to the philosophical assumptions underlying ideologies on the right (the negative state, free market, unlimited personal choice, etc.) and the left (the importance of community, the need for public power to promote the common good, etc.). The course will discuss definitions of "the public interest" and try to resolve them.
Hrs by arrangement, 1 Credit

PbAff 610
Public Management: Theories and Principles
Staff
This course will explore the complex environment in which today's public managers must effectively function. It will introduce students to the various theories of complex organizations, with a particular emphasis on those developments most relevant to public organizations. As part of the effort to relate theory to practice, students' own work experiences will become a legitimate and important aspect of the subject matter.
3 Lect Hrs, 3 Credits

PbAff 612
Organizational Behavior
Staff
This course will examine the nature of human behavior in public sector organizations as a function of the individual, the groups within which he or she interacts, and the organizational setting. Topics will include such things as motivation, leadership, adaptation, socialization, conflict, and communication.
3 Lect Hrs, 3 Credits

PbAff 614
Human Resource Management
Staff
This course is designed to familiarize students with human resources management in the public sector, i.e., personnel management practices and the practice of labor-management relations. The first half of the course examines the basic concepts of human resources management and the principles of planning and forecasting human resources needs. This part of the course will examine such things as career planning and management, job design, pay systems, selection, training, and equal opportunity. The second half of the course explores the nature and history of labor-management relations. This half of the course will focus on the tactics and strategies of management and union representatives and the legal constraints on their behavior in: (1) the organization of public employee unions; (2) contract negotiation; and (3) contract administration and interpretation.
3 Lect Hrs, 3 Credits

PbAff 620
Analytic Skills for Policy Analysis I
Staff
Introduction to descriptive and inferential statistics, including hypothesis testing, analysis of variance, and correlation, with appropriate computer applications.
3 Lect Hrs, 3 Credits

PbAff 621
Analytic Skills for Policy Analysis II
Staff
Understanding the use and interpretation of sophisticated quantitative techniques, including multiple regression analysis and other multivariate statistical techniques, input-output analysis, linear programming, and simulation models. Review of current computer software packages for statistical analysis.
3 Lect Hrs, 3 Credits

PbAff 625
Public Budgeting and Financial Management
Staff
The public budgeting process in theory and practice. Students will be introduced to contemporary approaches to public budgeting as well as to the difficulty of planning in the public sector, the dilemmas of choice and of priority setting, the results of incrementalism, and the nature of budgetary "rationality." In addition, the course will examine the nature and scope of public financial management at the state and local level. It will familiarize students with state and local government financial reporting and accounting, current operating expenditures, techniques for evaluating capital expenditures and products. It will explore borrowing and debt management, evaluation of municipal credit quality, managing cash assets and liquid securities, simulations and financial forecasting, and evaluating and controlling financial management practices.
3 Lect Hrs, 3 Credits

PbAff 645
Program Evaluation
Staff
This course explores the issues involved in and techniques applicable to evaluation of programs in the public sector. The course focuses on how to define programmatic objectives and output measures and how to develop evaluation methods and instruments. The course further addresses how to implement such studies and demonstrate their worth.
3 Lect Hrs, 3 Credits

PbAff 651, 652, 653, 654, 655
Policy Workshops
Staff
A series of weekend workshops addressing public policy issues of concern to the Commonwealth.
1 Credit Each

PbAff 695, 696
Independent Study
Staff
Advanced course of independent readings under the guidance, and subject to the examination of the instructor. Areas and topics according to student need.
Hrs by arrangement, 1 Credit

PbAff 697
Special Topics in Public Affairs
Staff
An advanced course offering intensive study of selected topics in public affairs. Course content will vary according to the topic, and will be announced prior to registration.
3-6 Lect Hrs, 3-6 Credits

PbAff 699
Case Study Seminar
Staff
Students in the MS in Public Affairs Program will have the opportunity to complete a final project under the supervision of a faculty advisor. The project may be a case study of a public policy or significant piece of legislation which involves tracing its history, analyzing the political, economic, and social context in which it developed, identifying and examining the roles played by those who were instrumental in its development, and assessing its intended and actual impact. It may also be a critical examination of a policy issue confronting a student at his or her place of employment. While completing their case study project, students will participate in a weekly seminar that focuses both on the substantive issues under examination and on case study methodology.
Hrs by arrangement, 3 Credits

Reading*

Faculty

Dolores Gallo, EdD, *Harvard University,* Elementary Education, Creativity and Learning

Frank J Luciano, EdD, *Boston University,* Secondary Education, Reading in Content Areas, Language and Learning, Administration and Supervision

Jean Phelan, EdD, *Boston University,* Elementary Education, Learning Styles, Supervision, Research

Mary E Rice, PhD, *Boston College,* Diagnostic Techniques and Remediation Strategies, Program Evaluation, Special Needs

The Program

The Graduate Program in Reading is designed as an intensive and sequential course of study which provides school personnel the opportunity to establish theoretical frames for practical applications. The combination of two supervised practica and course work requiring field-based assignments allows the student to develop the professional competencies needed to become certified as a Consulting Teacher of Reading (all levels). The University offers students two options within the program, recognizing that some students may choose not to pursue certification. For the student not seeking certification, Practicum II is optional, and elective courses in an area of special interest may be substituted. Possible areas for consideration include: administration, special education, psychology, literature, and curriculum. Advisor approval is required.

Degree Requirements

A minimum of thirty-three graduate credits is required to complete the program. In addition to courses offered by the Reading Program, students must also take CCT 601, Critical Thinking. See the section in this bulletin on the Critical and Creative Thinking Program, for a description of this course. Courses are, for the most part, offered in the late afternoon and evening, in addition to the summer, not only to accommodate teacher schedules, but to encourage educational practitioners to update skills and develop methodology and expertise in directing, motivating, assessing, and evaluating reading programs. Each student will be assigned an advisor to assist with program planning. Students are encouraged to meet with the advisor frequently. Each student must successfully complete a final comprehensive examination.

The program provides:

- A sequential progression of course work.
- Flexibility of course selection dependent upon the students' academic preparation.
- Field-based assignments that require the student to combine theory and practical application.
- Supervised practica designed to provide experience and allow the student to demonstrate competence.

*At the time of the publication of this bulletin, this program was under review, and applications for admission to the program were not being accepted.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The Reading Program will admit those applicants who present evidence of their ability to do graduate work with distinction. Such evidence must include:

1. A distinguished undergraduate transcript with, generally, an average of at least 3.0 in the undergraduate major.
2. At least three positive and informed letters of recommendation submitted by persons who are knowledgeable about, and have worked closely with, the candidate, and who have direct knowledge of his or her teaching skills.
3. Documentation of one year of successful teaching experience plus the possession of a Massachusetts classroom teaching certificate.
4. Submission of Graduate Record Examination scores, or Miller Analogies Test scores.
5. An interview.

The Reading Graduate Committee will review applications and make recommendations to the Dean of Graduate Studies and Research.

Rdg 633
Adapting Reading Instruction for Special Needs Students
Staff
This course focuses on identification techniques, program planning, and evaluation processes for special needs students. Remediation strategies are presented through a case study approach.
Prerequisite: An introductory course in reading.
3 Lect Hrs, 3 Credits

Rdg 634
Individualizing Instruction in Reading
Staff
The course focuses on the knowledge needed by the classroom teacher and administrator to successfully implement and monitor an individualized program in reading. Appraisal procedures, management strategies, recording techniques, and reporting approaches are included. The material presented should be of particular interest to elementary and middle school personnel.
3 Lect Hrs, 3 Credits

Rdg 635
Reading for the Academically Talented Child
Staff
The course will focus on identification techniques for gifted readers and program planning. Topics included are individualization, building independence in the content areas, research and study skills, discussion techniques, literature, and critical and creative reading skills.
3 Lect Hrs, 3 Credits

Rdg 636
The Reading Process: Programs and Priorities
Staff
The course addresses the multifaceted nature of the reading process. Designed as the introductory course in the reading sequence. The teacher will develop the foundation understandings necessary to help students maximize their potential in becoming competent effective readers. The topics to be explored include: historical perspectives, current trends, sequential approaches to reading instruction, special needs learners, academically talented learners, reading study skills, content area reading, measuring and understanding student progress, and management strategies.
3 Lect Hrs, 3 Credits

Rdg 637
Seminar in Reading Research
Staff
In this advanced course the student will be expected to demonstrate an awareness and knowledge of the research in the area of reading and the language arts in general, participate in presentations, discussions, and dialogue concerning the research findings and implications, and present a scholarly paper demonstrating an awareness of the pertinency and applicability of such research. The content of the course varies each semester.
Prerequisites: Rdg 636, 641.
3 Lect Hrs, 3 Credits

Rdg 638
Diagnostic Techniques in Reading and Remediation Strategies
Staff
The course presents an in-depth examination of the diagnostic tools available to the Consulting Teacher of Reading. The student will be expected to demonstrate theoretical knowledge, interpretation skills, and the ability to transform this information into practical program planning. Remediation strategies will be introduced and explored as a preparation for the Practicum in Remediation where knowledge gained will be applied in a clinical setting.
Prerequisites: Rdg 636 and 641, or permission of instructor.
3 Lect Hrs, 3 Credits

Reading

Rdg 639
Administration and Supervision of the Reading Program
Staff
This course is designed for administrators, coordinators, supervisors, and teachers interested in the administration and supervision of reading programs. The course considers administrative roles and responsibilities; structure and organization; home and community relationships; evaluation and assessment; staff training; curriculum development and improvement; current practices and innovative patterns; and field-based observation and research.
3 Lect Hrs, 3 Credits

Rdg 640
Reading in the Content Areas
Staff
The course will familiarize the teacher with developmental reading techniques appropriate for students using various textual materials. Attention will be given to the integration and application of reading and study skills applicable to various content areas. The material presented should be of particular interest to middle and secondary school personnel.
3 Lect Hrs, 3 Credits

Rdg 641
Measurement and Evaluation of Reading
Staff
The course focuses on developing the students' ability to locate, analyze, interpret, and apply data within the realm of education with particular emphasis on reading and the language arts. Students will be required to select evaluative procedures and demonstrate how the results might be used to improve instructional programs.
3 Lect Hrs, 3 Credits

Rdg 643
Theory of Language and Language Acquisition
Staff
The course is designed to explore the theory of language; its evolution and history; the principles of language awareness and acquisition, linguistic and psycholinguistic elements of language; neurological substrates; and other cognitive aspects as they relate to reading abilities and disabilities.
3 Lect Hrs, 3 Credits

Rdg 644
Curriculum and Materials in Secondary Reading
Staff
The course is designed to meet the needs of the reading specialist and the content area teacher. Participants will study curriculum, review materials, and design instructional materials and programs.
3 Lect Hrs, 3 Credits

Rdg 696
Independent Study
Staff
This course involves the comprehensive study of a particular topic determined by the students' needs; pursued under the guidance, and subject to the examination of the instructor.
Hrs by arrangement, 3 Credits

Rdg 697
Special Topics in Reading
Staff
This advanced course will offer intensive study of selected topics in reading. The course content and credit will vary according to the topic. Written approval of the advisor is necessary one semester prior to that in which this course is to be taken.
Hrs by arrangement, 2-6 Credits

Rdg 698
Practicum I (Remediation)
Staff
This course affords the student the opportunity to apply the knowledge gained in prior course work in the program in an off-campus clinical setting. Each clinician is assigned two students and is expected to complete a diagnostic evaluation, submit a case study for approval, and execute a program of remediation under supervision. A one week orientation on campus is required. The daily tutorial period is followed by a seminar with the supervisor. Applications for Practicum I must be filed by March 15 prior to the summer during which the Practicum is to be taken.
Prerequisites: Rdg 636, 638, 641 and permission of instructor.
6 Credits

Rdg 699
Practicum II
Staff
This course is open only to matriculated students seeking certification as Consulting Teachers of Reading (all levels) who have demonstrated competencies in all prior coursework in the program. The recommendation of the advisor and the approval of the Graduate Program Director are required one semester prior to undertaking Practicum II. A minimum of 120 clock hours will be required in a school setting under the supervision of a local practitioner and a university supervisor. The setting will be selected after consideration of the individual student's experiential and academic background plus advisor recommendation. A major project or paper is one of the expected outcomes of this practicum. In addition to the on-site experience, the student will attend a weekly seminar at the University.
6-9 Credits

School Psychology

Faculty

Marianne Bender-Powers, EdD, *Boston University,* School Psychology

Kenneth C Boatner, EdD, *University of Massachusetts at Amherst,* School Psychology, Intelligence Testing

Vincent A Cristiani, EdD, *Boston University,* School Psychology, Intelligence Testing

Marian J Ego, EdD, *Harvard University,* School Psychology, Diagnostic Interviewing

Raymond R Gilbert, PhD, *Harvard University,* Counseling Psychology

Alan E Hastings, PhD, *Western Colorado University,* Psychometric Techniques, Intelligence Testing

Varda Konstam, PhD, *Fordham University,* Special Education

Doris S Norman, EdD, *Boston University,* Special Education

Arthur J O'Shea, PhD, *Boston College,* Psychological Testing

Samuel E Toto, EdD, *Boston University,* Psychoeducational Prescriptions and Assessment

The Combined MEd and Certificate of Advanced Graduate Study (CAGS) Program

The program trains graduates to serve as certified school psychologists in schools or clinical settings, and is particularly appropriate for experienced teachers and others in professionally related fields of specialization. The program is rigorous and well structured; it is designed to meet Massachusetts state requirements for certification in school psychology and is program-certified. Graduates of the program generally serve as integral members of core evaluation teams, offering counseling, diagnostic and treatment services for pupils with emotional, learning, physical, intellectual, or educational difficulties and problems. As school psychologists, these graduates also provide assistance and consultative services to teachers, administrators, and other professionals.

Degree Requirements

Candidates for the combined MEd degree and CAGS in School Psychology are expected to successfully complete all course work and other academic requirements necessary for Massachusetts State Department of Education certification as a school psychologist. Those requirements include at least sixty credits of approved course work, plus a dual practicum. Candidates must also successfully pass a comprehensive examination in the area of school psychology, and satisfy all other graduate and degree requirements as specified below. Upon successful completion of forty-five credits of approved course work in the program, matriculated students will be awarded the MEd in School Psychology. Upon successful completion of the entire sixty-credit program, plus the dual practicum, candidates will be awarded the Certificate of Advanced Graduate Study in School Psychology.

The following *required* courses are offered in the related fields of Counselor Training and Special Education. Please refer to the appropriate sections of this bulletin for course descriptions.

Counselor Training: Coun 601, 605, 607, 608, 614, 615, 616, 622.

Special Education: SpEd 621, 623, 624, 629.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The School Psychology Graduate Committee will review all applications and recommend admission for those applicants who present evidence of their ability to do graduate work with distinction. Such evidence normally will include:

1. An undergraduate transcript with generally at least an overall grade average of 2.75, and generally an average of at least 3.0 in all psychology courses.
2. A score on either the Miller Analogies Test, or the Graduate Record Examination, Combined Aptitude Test.
3. Three letters of recommendation supporting the candidate's admission into the program.
4. A personal interview with the program director.

The Certificate of Advanced Graduate Study (CAGS) Program

The CAGS in School Psychology Program consists of advanced professional graduate study, beyond the master's degree level, in the area of school psychology; the program is specifically designed to meet the needs of each matriculated candidate.

The program is particularly suited to those who hold a master's degree in related fields, such as counseling, special education, teacher education, and clinical psychology, as well as to those who have already completed a master's program in school psychology. The program is geared to provide advanced professional training in school psychology and is designed to assist matriculated students in the program to satisfy the State certification requirements for school psychologists. A minimum of thirty semester hours of credit and a practicum are generally necessary in order to fulfill program requirements.

In addition, students must meet state certification requirements. Candidates who are not certified school psychologists may be required to complete more than the minimum course work and practicum, in order to meet the certification requirements of the Massachusetts State Department of Education.

Admission Requirements (CAGS)

Please see the general statement of admission requirements for all Graduate Studies programs.

The Graduate Program Director and the School Psychology Graduate Committee will review all applications and recommend admission for those applicants who present evidence of their ability to perform advanced graduate level work with distinction. Such evidence will normally include:

1. A distinguished graduate transcript, indicating completion of at least a Master's degree in school psychology or a related field of study, and an overall average of at least 3.0 in all graduate courses.
2. Official transcripts of all previous college work, undergraduate and graduate, from regionally accredited colleges and universities.
3. Three letters of recommendation addressing the candidate's ability to succeed in advanced graduate training in school psychology. At least two of the letters, if possible, should be from instructors in the applicant's most recent Master's degree program.
4. Submission of scores of the Miller Analogies Test or the Graduate Record Examination, if the most recent Master's degree was earned prior to five years before the date of the receipt of the application form by the Admissions Office. (No entrance test or examination is necessary if the Master's degree was earned within the five years prior to receipt of the application form by the Admissions Office.)
5. A personal interview with the program director.
6. Applicants who have earned a Master's degree at UMass/Boston may request that documents used in support of their application to those programs be used to support their applications to this program.

School Psychology

SchPsy 601
Issues in School Psychology
Staff
The course includes a study of the professional identity and function of the psychologist in the public school setting. An intensive analysis of the philosophical, technical, and administrative issues is conducted. School organizations, federal and state educational laws, ethical issues and dilemmas, APA standards, and multipluralistic assessments are explored in depth.
3 Lect Hrs, 3 Credits

SchPsy 602
Advanced Psychopathology
Staff
An intensive study of behavior disorders with particular emphasis on neuroses and psychoses, character personality disorders, and psychosomatic conditions. In-depth analysis of individual cases will provide the basic materials for illustration. Consideration and critical discussion of research findings and theories of behavioral symptom formation, and etiology of behavioral disorders.
3 Lect Hrs, 3 Credits

SchPsy 603
Individual Intelligence Testing
Staff
Administration, scoring, and interpretation of at least two individual intelligence tests (Wechsler Scales and Stanford Binet). Emphasis placed on a psychoeducational model of interpretation. The place of these instruments in a total evaluation of the individual will be considered. Ethical considerations and dangers of misuse will be discussed. Students will have opportunities to share feedback about administration experiences, and protocol interpretation in class.
3 Lect Hrs, 3 Credits

SchPsy 604
Advanced Psychometric Techniques I
Mr Hastings
Explores devices of a projective and semi-projective nature, especially those instruments applicable to school psychology and mental health clinics. Will focus on an investigation of the projective aspects of the Wechsler Scales, surface projectives, sentence completion, and draw-a-person.
3 Lect Hrs, 3 Credits

SchPsy 605
Advanced Psychometric Techniques II
Mr Hastings
Explores devices of a projective and semi-projective nature, especially those instruments applicable to school psychology and mental health clinics. In-depth study of the Bender Gestalt, the Thematic Apperception Test, and the MMPI.
3 Lect Hrs, 3 Credits

SchPsy 606
Techniques of the Diagnostic Interview
Staff
This course introduces the use of the clinical interview in both clinical and educational settings. Emphasis will be placed on the integration of interview data with multiple data sources, including supplementary behavior observations, psychological test data, and history, and the use of the interview as a springboard for decision-making regarding the need for further diagnostic assessment and/or educational and treatment planning.
3 Lect Hrs, 3 Credits

SchPsy 607
Psychoeducational Prescriptions
Mr Toto
Attention is focused on the techniques of synthesizing psychological information into an effective, individually appropriate educational plan.
3 Lect Hrs, 3 Credits

SchPsy 608
Introduction to Rorschach
Mr Gilbert
This course introduces the student to the theoretical and empirical foundations of the Rorschach Tests, and provides experience in administering, scoring and interpreting the test with children and adults in clinical and non-clinical settings. Students are also expected to take SchPsy 609 (Advanced Rorschach).
3 Lect Hrs, 3 Credits

SchPsy 609
Advanced Rorschach
Mr Gilbert
A continuation of SchPsy 608, this course provides more advanced work in Rorschach testing.
3 Lect Hrs, 3 Credits

SchPsy 610
Neuropsychological Theory and Practice in Education
Staff
This course examines neuropsychology, the study of brain and nervous system functions, in relation to adaptive behavior and learning, from a developmental viewpoint. The course looks at organismic versus specific localization theories relating to normal and dysfunctional conditions that affect moving, sensing, perceiving, assimilating, recalling, and expressing through diagnostic-prescriptive studies. Participants study learning abilities and disabilities from a neuropsychological perspective, which allows them to apply the analysis of learning styles to the implementation of individual instruction methods and education plans.
Prerequisites: Coun 608 or SchPsy 602; and SchPsy 603.
3 Lect Hrs, 3 Credits

SchPsy 691
Seminar in School Psychology
Mr Cristiani
Seminar course to be taken in conjunction with each of the required two Practicums in School Psychology. Course consists of lectures, discussions, case studies, assessments and core evaluations, and general topics, issues and experiences related to the Practicum. Each seminar course earns three of the six credits granted toward the successful completion of a practicum experience.
3 Lect Hrs, 3 Credits

SchPsy 696
Independent Study in School Psychology
Mr Cristiani, Staff
Research and reading in an area of school psychology chosen by the student and approved by the instructor. Open only to graduate degree and certificate candidates who are matriculated in the School Psychology program.
Prerequisite: Permission of the Graduate Program Director.
Hrs by arrangement, 3-6 Credits

SchPsy 697
Special Topics in School Psychology
Staff
Intensive study of a selected topic in school psychology. Offered only to degree and certificate candidates.
Prerequisites: Permission of the departmental curriculum committee and approval of the Graduate Program Director.
3 Lect Hrs, 3-6 Credits

SchPsy 698
Practicum in School Psychology
Mr Cristiani
Full-time practicum placement, consisting of a minimum of 600 clock hours of field experience in either an elementary or secondary school setting under the supervision of a practicing certified school psychologist. A dual practicum, consisting of a minimum of 600 clock hours, is required for state certification. A minimum of 600 clock hours of field experience must be completed in a school during the first practicum; the second practicum may be conducted in a clinical setting, if desired, under the supervision of a licensed and/or certified psychologist. University supervision is required.
3 Credits (each practicum)

Applied Sociology

Faculty

Bruce L Berg, PhD, *Syracuse University,* Criminology, Corrections, Youth

James E Blackwell, PhD, *Washington State University,* Social Problems, Race and Ethnic Relations

Harry Brill, PhD, *University of California, Berkeley,* Social Policy, Sociology of Unemployment, Urban Sociology

Ann Cordilia, PhD, *University of Chicago,* Criminology, Evaluations Research, Alcohol Addiction, Social Deviance and Control

Robert A Dentler, PhD, *University of Chicago,* Evaluations Research, Social Policy, Social Problems, Sociology of Education

John K Dickinson, PhD, *University of Marburg,* Social Problems, Demography, Family

Estelle Disch, PhD, *Tufts University,* Human Services Organizations, Social Psychiatry

Frederick C Gamst, PhD, *University of California, Berkeley,* Complex Society, Peasants, Industrial Ethnology, Cultural Evolution, Religion, Social Organization (Anthropology Department)

Gerald R Garrett, PhD, *Washington State University,* Criminology, Corrections, Social Deviance and Control, Alcohol Addiction, Evaluations Research

Susan Gore, PhD, *University of Pennsylvania,* Medical Sociology, Research Methodology

Glenn Jacobs, PhD, *Temple University,* Sociological Theory, Social Problems, Field Work Methods

Lawrence Kamara, PhD, *Boston University,* Family, Sociological Theory, Race and Ethnic Relations, Sociology of Aging

Richard Kronish, PhD, *University of Wisconsin, Madison,* Social Deviance and Control, Sociology of Work

Calvin J Larson, PhD, *University of Oregon,* Sociological Theory, Criminology, Urban Sociology

Siamak Movahedi, PhD, *Washington State University,* Criminology, Social Psychiatry, Research Methodology

Richard Robbins, PhD, *University of Illinois,* Race and Ethnic Relations, Social Problems, Urban Sociology

Russell K Schutt, PhD, *University of Illinois, Chicago,* Sociology of Law, Homelessness, Sociology of Organization, Research Methodology

Sharon Stichter, PhD, *Columbia University,* Comparative Sociology and Deviance, Political Sociology, Social Change and Modernization

Daisy M Tagliacozzo, PhD, *University of Chicago,* Complex Organizations, Human Services Organizations, Sociology of Professions, Medical Sociology

Elizabeth Useem, EdD, *Harvard University,* Sociology of Education, Society and Technology

Robert Weiss, PhD, *University of Michigan,* Research Methodology, Family, Sociology of Youth, Social Psychiatry

Gordon Zahn, PhD, *Catholic University,* Sociological Theory, Sociology of Religion, Conflict, Collective Behavior (Emeritus)

The Program

The Master of Arts Program in Applied Sociology, through courses and internships, emphasizes theory, methodology and techniques directly applicable in professional settings, such as criminal and juvenile justice agencies, human services organizations, hospital and health care institutions, agencies for alcohol and narcotics addicts, and other private or public organizations. Course work in core areas, such as complex organizations, social policy analysis, applied and evaluation research methodologies, and social problems, is designed to provide students with both a basic understanding of the relevance of sociology in examining and solving complex human and social problems and with specific skills useful to those who seek careers in social service agencies, public service and social policy, applied research organizations and related professional settings. In addition, the program offers special course tracks in criminology/corrections and medical sociology/health care policy; students can also focus their studies in applied research, alcohol/substance abuse, and other areas. This range of possibilities enables students to pursue specialized study according to their specific academic interests and career objectives. An important feature of the program is its required field work—an internship that reflects both the academic and professional interests of the student. All internship placements are within public or private agencies, such as community-based correctional programs, criminal and juvenile justice agencies, or health care institutions, and may be either service- or research-oriented. The internship, in addition to affording the student an opportunity to develop his or her skills in a professional setting, helps provide a solid understanding of the relationship between sociological theory and social practice.

The program seeks applicants whose career and academic interests are oriented toward applied areas, and especially those who have had prior experience in a human service organization and who wish to increase or enhance their career opportunities. Scheduling of courses will be primarily—but not exclusively—in the late afternoon and evening hours so that students with employment and other obligations can progress at a convenient pace. Full-time students can expect to complete degree requirements within four semesters. Part-time student applicants will be admitted to the Program, provided they meet Graduate Admissions criteria. All students admitted to the Program must complete degree requirements within five years, including interruptions in degree progress due to leaves of absence. Students with exceptional circumstances may petition the Graduate Program Committee for an extension of this time limit. Non-degree-seeking students who hold a BA degree can enroll in selected courses, provided that they demonstrate to the program director and the instructor suitable qualifications for post-graduate study.

Facilities

A range of computational resources is available in the Graduate Program in Applied Sociology. Students have direct access through over 200 terminals to the power of CDC Cyber mainframe computers (through connections to the UMass/Amherst campus) and to a cluster of VAX super minicomputers (including a VAX 8800) at the Harbor campus. The major statistical packages, SPSS-X, SAS, BMDP, and Minitab; and many other programs are available on either the Cyber or the VAX systems. UMass/Boston's Harbor Campus also has four IBM PC microcomputer laboratories for student use; each lab has between 10 and 20 PCs connected to a common file server with popular word processing, statistical, data base management, and/or spreadsheet software. Other labs contain Apple II, Macintosh, and Rainbow microcomputers. Two microcomputers and one terminal are available in the Sociology Department for graduate student use.

In-depth workshops provide training in the use of the computers and available packages. In addition to the Department's own faculty, experienced consultants and data analysts provide assistance to computer users.

These computational resources are complemented by extensive social science data archives, and ongoing social science research projects. Through the Social and Demographic Research Institute at UMass/Amherst, students have access to data obtained from Gallup polls, surveys of prison inmates, observations of plea bargaining, records of Massachusetts court cases, and over 150 other studies of national and local populations. Through the University's Center for Survey Research, the Department maintains close ties to survey research projects. Ongoing faculty research on such topics as homelessness, prisons, and health care provides additional opportunities for student thesis projects.

The Department of Sociology also maintains a collection of specialized books and periodicals in criminology, corrections, addiction, and other areas, which supplement the resources of the University's main library. Close cooperation with numerous public and private agencies in Greater Boston also permits student access to technical library resources in a variety of fields useful in applied research, as well as to other technical research facilities.

Applied Sociology

Degree Requirements

Candidates for the MA degree in Applied Sociology must earn a minimum of 36 semester credits, at least 30 of which must be earned in courses offered in the Graduate Program in Applied Sociology. Special requirements include:

1. A minimum of a 3.0 GPA in all courses applied to the graduate degree.
2. Completion of the core courses in Applied Sociology (Ap Soc 600, 620, 641, 650, 651).
3. Completion of a minimum of two courses in one of the program's tracks (criminology/corrections and medical sociology/health care policy) or in another concentration, such as alcohol addiction or applied research, as elected by the student and approved by the graduate program director.
4. Successful completion of the special field work course (Ap Soc 698), which entails a fieldwork/internship component and a Master's paper under the supervision of the student's faculty advisor; or the completion of a Master's thesis (Ap Soc 699), supervised by a Thesis Committee. The Master's paper or thesis, submitted at the conclusion of the candidate's degree work, must show evidence of analytical thinking, competence in the substantive area under investigation, and applied methodology and/or theory. The required field work/internship component can be waived if the candidate has already had substantial experience in an appropriate field work setting, such as a social or human service agency.
5. Students may choose to take a comprehensive examination as an alternative to preparing a paper or a thesis. This examination is offered each spring to candidates who have completed other degree requirements. It has both written and oral components.

Not more than six semester credits in graduate courses earned at other colleges or universities, or six semester credits in approved upper-division undergraduate courses taken at the University of Massachusetts at Boston, can be applied to the candidate's degree in Applied Sociology. Students should consult with the Graduate Program Director regarding transfer graduate credits or UMass/Boston undergraduate credits prior to enrollment, if these are intended to satisfy degree requirements. Students are encouraged, however, to enroll in courses offered in other UMass/Boston graduate programs if they meet course prerequisites and if such courses contribute to the student's academic interests in applied sociology.

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

Candidates for admission to the Graduate Program in Applied Sociology must supply evidence of ability to perform successfully at the graduate level. Such evidence will include:

1. A distinguished undergraduate record in sociology and related subjects, with at least a 3.0 GPA in sociology course work. Preference will be given to candidates who also have at least a 3.0 GPA in all undergraduate work completed in the last two years of study. Applicants who do not hold a BA in sociology should have at least 18 semester credits or their equivalent in undergraduate sociology.
2. Successful completion of undergraduate courses in sociological theory, research methodology, and statistics. Contingent upon other evidence, including the Miller Analogies Test score and evidence of completion of equivalent courses, candidates admitted to the program who are deficient in any of these areas may be required to take undergraduate courses in the Department of Sociology as non-credit electives, to be completed not later than the end of the second semester of residence in the program.
3. A statement not to exceed 1200 words, as specified on the Graduate Admissions Application, by the applicant on his or her academic and career interests in applied sociology. The statement should indicate the type of concentration the candidate wishes to pursue.
4. A score on the Miller Analogies Test.
5. Three letters of recommendation from individuals acquainted with the applicant's interests who are qualified to evaluate his or her potential for sustained graduate study in applied sociology. When possible, at least one of these letters should be from a professor with whom the applicant is studying or has studied.

Candidates for admission interested in applying for a graduate assistantship should write to the Director of the Graduate Program in Applied Sociology for an application form. Applicants should have a record of distinguished scholarship. Awards are made by the Graduate Program Committee to qualified students who will be enrolling in nine or more credits each semester. Additional requirements are outlined in the "Financial Aid" section of this bulletin.

ApSoc 600
Complex Organizations
Staff
The course will acquaint students with studies of complex organizations that throw light on decision-making and conflict in the setting of formal organizations. Students will study how policies emerge and how they are translated into action. They will study research illuminating the nature and functions of rules, the initiation and consequences of political processes, the role and problems of "street-level" bureaucrats, and the impact of social, political and economic conditions on organizational behavior. Theories and concepts will be applied to human service organizations and their distinctive features will be discussed.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 620
Social Problems
Staff
An analysis of theories to explain the historical development of social problems. Theories include Marxian and non-Marxian analyses, micro- and macro-theoretical approaches such as functionalism, conflict, interactionism and deviance perspectives. Special attention given to the application of theories for the understanding of such contemporary social problems as unemployment and poverty, problems of urban communities, inter-group conflict/relations, individual deviance and others.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 621
Social Psychiatry
Staff
Sociological analysis of psychiatric theories and practices, examination of the effect of social structure on the construction, diagnosis, and treatment of mental disorders.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

Applied Sociology

ApSoc 622
Comparative Approaches to Deviance and Social Control
Staff
This course will consider the relation between deviance and societal development, concentrating on the effects of modernization, urbanization and industrialization on definitions of deviance and on the incidence and control of various kinds of deviant behavior. Methodological problems of cross-cultural comparison will be addressed, and comparative material on violent crime, juvenile delinquency, prostitution, alcoholism and other types of deviance will be drawn from Western Europe, the Soviet Union, Asia, Africa, the Middle East, and Latin America.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 623
Research Issues in Criminology and Alcohol Studies
Staff
An advanced course exploring the linkage between drinking misbehaviors and the criminal justice system. Special attention given to legislation focusing on alcohol-related offenses, legal and research issues, and on the evaluation of social programs formulated in response to alcohol-crime problems.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 641
Social Policy I
Staff
An in-depth examination of major factors shaping social policy, including historical antecedents, public and private sectors, the interaction of social policy, economy and politics, and how issues become defined as social problems.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 642
Social Policy II
Staff
A continuation of ApSoc 641 with special emphasis on problems and issues in implementing social policy, its impact on both recipients and non-recipients of services, and principles of social policy analysis and research. Special attention is given to selected problem areas, such as income-maintenance programs, manpower policy, race and ethnic relations, crime and delinquency, and health-care programs.
Prerequisite: ApSoc 641 or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 650
Methods of Research
Staff
Focuses on methods of collecting information about social service and other programs. Course requires students to conduct exercises that will give them first-hand experiences in various approaches to data-collection and management. Emphasis also placed on analyzing social science documents, using the approaches of case study, comparative research, survey research and field experiment.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 651
Methods of Research II
Staff
A continuation of ApSoc 650, focusing on the interpretation, analysis, and presentation of quantitative data. Course exercises use descriptive statistics, cross-tabulation and regression analysis, as well as related inferential statistics, to analyze social data. Procedures for computer-based statistical analyses are introduced and used throughout the course. No prior experience with computers or knowledge of statistical formulae are required.
3 Lect Hrs, 3 Credits

ApSoc 653
Computer Applications in Social Analysis
Staff
An introduction to computer applications in social agencies and in social research. Topics include the fundamentals of computer operations, the techniques involved in computer use, and the consequences of computers for social practice. Specific techniques covered include spreadsheets, data base management, communications, word processing, and the construction and use of data files with statistical packages.
Prerequisites: Graduate standing and permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 655
Evaluation Research
Staff
An advanced course in the theory and practice of evaluation of public policy and social service programs for social science students and practitioners. Basic knowledge of research methods is assumed, but relevant issues in research design and implementation will be reviewed. General overview of evaluation theory and landmark evaluation studies. Analysis of commonly used evaluation models and of practical and political issues involved in design and implementation of evaluations. Design of an evaluation of a social agency program required.
Prerequisites: Graduate standing and permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 658
Theory and Practice of Interviewing
Staff
Theory and practice of interviewing for research, field work and social services. Focus includes sociological perspectives on face-to-face interaction, the role of the interviewer in various settings, and basic interviewing skills. Practice interviewing required.
Prerequisite: Graduate standing or permission of instructor.
3 Credits

ApSoc/Anth 670
Industrial Anthropology and Sociology
Mr Gamst
Comprehensive but intensive coverage of industrial anthropology and sociology to aid in the understanding of the social relations and organization of work in industrial urban society, for theoretical and applied purposes. Topics include the social science of industry, industrialization, organizational theory, managerial processes, unionism, human relations in work, social stratification, government and law in work, women and minorities at work, human factors, industrial safety, and periodically selected special subjects.
Prerequisite: Anth 350 or 351, or Sociol 337 or 365, or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 680
Current Issues in Medical Sociology
Staff
This variable content course will focus on selected topics in the study of health services and their client populations. The format will reflect current public and professional concerns and will be responsive to the specific interests of class members.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 681
Health Care Policy
Staff
This course focuses on recent changes in health care policy and in the organization of medicine with special attention to the impact of these changes on delivery, distribution and quality of health services. Additional emphasis given to: the history of medicine; the political economy of health care; inequality in utilization of and access to health services; rising costs and cost containment programs; attempts at regulation; and government health programs and private health service organizations.
Prerequisites: Graduate standing and permission of instructor.
3 Lect Hrs, 3 Credits

Applied Sociology

ApSoc 682
Social Psychological Contexts of Health Care
Staff
This course highlights the role of the social sciences in dealing with problems of health care practice, focusing on research contributions to health maintenance, prevention, treatment, and quality of care. Topics include the nature and goals of client-practitioner relationships, health education, behavioral and psychosomatic medicine, and the linkages between social problems and medical problems.
Prerequisite: Graduate standing.
3 Lect Hrs, 3 Credits

ApSoc 683
Socio-Medical Aspects of Aging
Staff
This course focuses on several issues: the epidemiology of health problems associated with aging; social support systems for the elderly; stress and health; medical and psychiatric treatment of the aged; comparative analysis of health care settings; characteristics of the dying process; cross-societal comparison of the medical problems and the medical care of the elderly.
3 Lect Hrs, 3 Credits

ApSoc 690
Advanced Seminar in Applied Criminology I
Staff
An intensive seminar on contemporary theories of crime and delinquency and their application to applied contexts, including prevention and control programs, court diversion projects and community-based corrections, institutional settings and parole. Special attention given to social policy implications and to basic methodological problems in conducting research in criminal and juvenile justice.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 691
Advanced Seminar in Applied Criminology II
Staff
An intensive seminar on the legal, ethical and practical considerations in criminology and corrections, including the nature of crime and criminal, statistics on criminal and delinquent behavior, the prison as a complex organization, analysis of correctional innovations and theories of rehabilitation. Analysis of important empirical studies with special attention on problem-selection and methodology.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3 Credits

ApSoc 696
Independent Study
Staff
In-depth study of a particular topic according to the student's interests. Independent study projects are expected to make an important contribution to a student's training in applied sociology. All projects are under the supervision of a faculty advisor, who is responsible for guiding and evaluating the student's work. An application and detailed proposal must be submitted to the Graduate Program Director not later than two weeks before the end of the semester previous to that in which ApSoc 696 is to be taken.
Prerequisites: Graduate standing and permission of the Graduate Program Director and Committee.
Hrs by arrangement, 3-4 Credits

ApSoc 697
Special Topics in Applied Sociology
Staff
An advanced seminar on selected topics in applied sociology. The course content and credit will vary according to topic. Details on special topics courses are announced during the advance registration period.
Prerequisite: Graduate standing or permission of instructor.
3 Lect Hrs, 3-6 Credits

ApSoc 698a
Field Work in Criminology
Staff
Intensive field work and/or internship in a public or private research setting jointly supervised by faculty and agency-based staff. Placements made according to student interest and internship availability.
Prerequisite: Graduate standing or permission of instructor.
Hrs by arrangement, 3-6 Credits

The following courses have the same course descriptions as ApSoc 698a:

ApSoc 698b
Field Work in Medical Sociology

ApSoc 698c
Field Work in Evaluation

ApSoc 699
Thesis Research in Applied Sociology
Staff
Supervised thesis research open to students who elect the thesis option. The thesis research is conducted under the supervision of a faculty committee consisting of a primary faculty advisor and two additional faculty members, who are responsible for advising the student in preparing and carrying out the thesis project and for evaluating and judging its acceptability.
Prerequisite: Permission of the Graduate Program Director and Committee.
Hrs by arrangement, 6-9 Credits

Special Education

Faculty

Gail Binus, MA, *Western Michigan University,* Language and Cognition

Perry Davis, CAGS, *Assumption College,* Rehabilitation Counseling, Secondary Special Needs Students

Ronda Goodale, PhD, *Boston College,* Bilingual and Bicultural Special Education, Assessment and Remediation, Program Evaluation

Varda Konstam, PhD, *Fordham University,* Behavioral Management, Consultation, Counseling, Bilingual and Bicultural Special Education

Glenn Mitchell, MEd, *Lesley College,* Program Evaluation and Curriculum, Young Children with Special Needs

Doris Norman, EdD, *Boston University,* Assessment and Remediation

Samuel Toto, EdD, *Boston University,* Special Education Administration, Consultation

The Programs

The Graduate Programs in Special Education offer a comprehensive course of studies leading to certification as Generic Consulting Teacher (all levels); certification as Teacher of Children with Moderate Special Needs (N-9) (5-12); certification as Teacher of Young Children with Special Needs (3-7); and/or the MEd in Special Education. Through courses and practica, the programs afford teachers, special educators and other specialists in related fields an opportunity to serve special students in a variety of settings including resource rooms and substantially separate classrooms. The programs stress the integration of theory and practice.

Degree Requirements

Candidates for the MEd in Special Education must complete 42 credits of graduate work. Candidates typically fulfill the 30-credit requirement for certification in either Generic Consulting Teacher (all levels), Teacher of Children with Moderate Special Needs (N-9) (5-12), or Teacher of Young Children with Special Needs (3-7), and take additional course work in an area of concentration (Reading, The Gifted and Talented Student, Counseling the Special Needs Student, or the Bilingual Special Needs Student).

Admission Requirements

Please see the general statement of admission requirements for all Graduate Studies programs.

The MEd Program in Special Education will recommend for admission those applicants who present evidence of their ability to do graduate work with distinction. Such evidence will normally include:

1. A distinguished undergraduate transcript with generally at least an average of 3.0; 2.75 for those who wish only certification.
2. A score on either the Miller Analogies Test or the Graduate Record Examination.*
3. Three letters of recommendation submitted by persons who are knowledgeable about teaching special needs students, who have worked closely with the applicant, and who have direct knowledge of the applicant's teaching skills.
4. A writing sample indicating the applicant's ability to write in a clear professional manner. This sample may be an assessment report or term paper.*
5. For Generic Consulting Teacher only, evidence of two years' successful teaching experience.
6. Massachusetts Certification in Elementary, Secondary, or Special Subject Area.
7. A personal interview with a member of the faculty.

*Requirement may be waived if the student already has the MEd, EdD, or PhD degree in a related field.

SpEd 602
Language and Cognition
Ms Binus, Ms Norman
This course examines the normal development of communication and conceptual skills, analyzes diagnostic instruments for assessing deviations, and critiques a variety of classroom intervention strategies. Field-work component included.
3 Lect Hrs, 3 Credits

SpEd 607
Behavioral and Classroom Management
Ms Konstam
This course will identify major theorists, techniques and procedures for behavioral management within the classroom setting. Observational recording skills, contingency contracting, monitoring of behavioral progress will be presented. Focus will be on effective use of behavioral management techniques using the candidate's teaching experience.
3 Lect Hrs, 3 Credits

SpEd 624
Screening and Identification of the Special Needs Individual
Ms Mitchell, Ms Norman
Informal and formal assessment tools used in screening and identifying special needs individuals will be presented and critiqued. Candidate will be able to recognize student's strengths and weaknesses, identify student's learning style and identify any physical constraints to the learning process. Field-based assignments are a requirement.
3 Lect Hrs, 3 Credits

SpEd 625
Clinical Teaching I—Elementary
Ms Norman
Students explore the major causes of difficulties in reading and spelling and perceptual motor functioning (N-9). A description and evaluation of a variety of teaching approaches and methods and materials used in teaching special needs students (N-9) in the above areas will be covered. Attention will be given to matching appropriate methods of teaching to the student's learning style. The mechanics of writing an effective IEP will be addressed.
3 Lect Hrs, 3 Credits

Special Education

SpEd 626
Clinical Teaching II—Elementary
Ms Mitchell
Students identify and describe the major causes of difficulties in the content areas, writing and mathematics (N-9). A description and evaluation of a variety of teaching approaches and methods and materials used in teaching special needs students (N-9) in the above areas will be covered. Attention will be given to matching appropriate methods of teaching to the student's learning style. Career awareness programs and social skills training will be addressed.
3 Lect Hrs, 3 Credits

SpEd 627
Clinical Teaching I—Early Childhood
Ms Mitchell
Theoretical basis of early intervention for young children with special needs (ages 3-7) examined along with implications of PL 94-142 and Chapter 766. Normal developmental stages of young children are analyzed, together with their deviations, in the areas of cognition, perception, and language. Observational, assessment, and instructional techniques/materials are presented.
3 Lect Hrs, 3 Credits

SpEd 628
Clinical Teaching II—Early Childhood
Ms Mitchell
Normal developmental stages of young children (ages 3-7), together with deviations, are explored in the areas of social-emotional development, motor skills, self-help skills, quantitative and problem-solving skills. Curriculum methods and materials are examined, with field-based observations required. The multi-disciplinary team approach is highlighted.
3 Lect Hrs, 3 Credits

SpEd 629
Consultation and Interpersonal Skills I
Mr Toto
Students demonstrate an understanding of the principles involved in consultation and interpersonal skills. Intervention strategies and interviewing techniques will be stressed. Dynamics of the team process, roadblocks to communication and analysis of a school system with subsequent in-service recommendations will be discussed. Students have an opportunity to apply these learned skills while examining theory concurrently.
3 Lect Hrs, 3 Credits

SpEd 630
Consultation and Interpersonal Skills II
Mr Toto
The course focuses on implementing effective strategies in working with parents of exceptional children. Students become sensitive to the issues of parenting a special needs student and learn to establish a collaborative relationship with parents which maximally utilizes available resources.
3 Lect Hrs, 3 Credits

SpEd 631
Clinical Teaching—Secondary
Mr Davis
This course focuses on the development of teaching strategies to be used with the secondary special needs learner in the basic academic skill areas. In addition, the critical issue of adolescent development will be integrated into the teaching strategies.
3 Lect Hrs, 3 Credits

SpEd 632
Alternative Strategies
Mr Davis
This course presents an overview of the vocational assessment process and alternative vocational training programs for the secondary special needs learner. A field work component is included.
3 Lect Hrs, 3 Credits

SpEd 633
Legal and Political Issues in Special Education
Mr Davis
The field of special education is governed by laws (Chapter 766 and PL 94-142) and is thus subject to the political process. This course addresses the critical legal aspects of special education, with an in-depth review of legislation, regulations and current practice issues. The major goal of the course is to clarify for special education teachers their obligations under the law, and to develop strategies for implementing the law with full compliance.
Prerequisite: SpEd 641.
3 Credits

SpEd 641
Developmental Patterns: Implications for the Special Educator
Ms Goodale
Candidates study the developmental patterns of children and adults with special needs in the physical, cognitive, perceptual and psychological spheres. The focus of the course is the habilitation and rehabilitation programming of individuals with special needs within the regular school.
3 Lect Hrs, 3 Credits

SpEd 646
The Gifted and Talented Student
Ms Goodale
This special topics course provides students with an overview of the gifted and talented student. Topics include definition of "gifted", identification of the gifted and talented, and methods and programs geared to these students. Special areas to be addressed are the gifted and talented minority student, as well as the gifted and talented underachiever.
Prerequisite: SpEd 641.
3 Credits

SpEd 650
Models and Measurement of Children's Social Development and Interpersonal Relationships
Staff
This course seeks to help students understand children's social behavior from a developmental perspective, and to gain some insight into factors inhibiting the acquisition of appropriate social behavior. Students develop skills in administering, recording, and interpreting sociometric data and assessment instruments to be used with children who have social difficulties.
Prerequisite: Graduate standing.
3 Lect Hrs, 3 Credits

SpEd 652
Methods and Materials for Social Skills Development of Special Needs Children
Staff
This course seeks to help students become familiar with the methods and materials available to implement social skills training; create programs to meet the needs of "at risk" children; and develop the skills to encourage positive social change in the classroom.
Prerequisite: SpEd 650
3 Lect Hrs, 3 Credits

Special Education

SpEd 653
Assessment Issues in Bilingual/Multicultural Special Education
Staff
This course focuses on assessment tools, both formal and informal, which are culturally sensitive and appropriate. Assessment is viewed within a larger context in order to ensure that certain issues are addressed with respect to the overrepresentation and the inappropriate retention of bilingual/multicultural students in special education settings.
3 Lect Hrs, 3 Credits

SpEd 654
Planning and Programs for the Bilingual/Multicultural Special Education Student
Staff
This course focuses on intervention strategies which are culturally sensitive and effective. Participants study the issue of educational programming within a larger context, in order to address issues unique to bilingual/multicultural students.
3 Lect Hrs, 3 Credits

SpEd 655
Cognition and Theories of Learning
Staff
This course focuses on the developmental aspects of cognition and learning, particularly their implications for education and psychology. Topics include definitions and theories of cognition, perceptual and attentional development, spatial cognition and imagery, memory development, problem solving and creativity, and social cognition. The course also explores cultural and linguistic perspectives on cognition. Practical application of theory is incorporated in course assignments, which include observation and/or field experiences.
3 Lect Hrs, 3 Credits

SpEd 690
Research Seminar in Special Education
Ms Konstam
This course includes seminar presentations that address current problems and issues in special education. Student presentations will culminate in a research project.
2½-5 Lect Hrs, 3-6 Credits

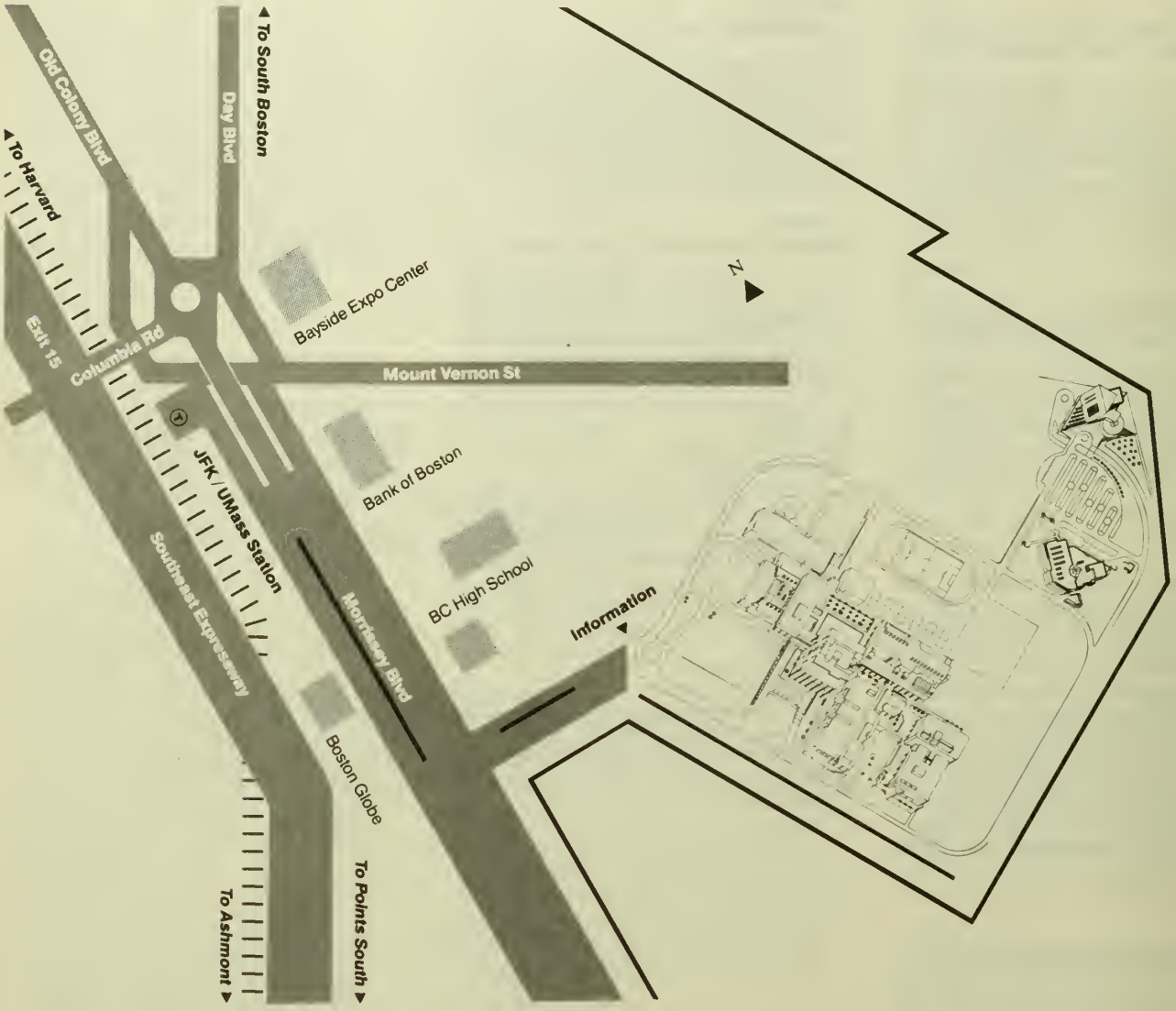
SpEd 696
Independent Study
Staff
Faculty-directed comprehensive course of study in a particular area of interest or a fieldwork experience. A detailed proposal of intent must be submitted to the faculty member prior to registration.
Prerequisite: Permission of Program Director.
Hrs by arrangement, 3-6 Credits

SpEd 697
Special Topics in Special Education
Staff
An advanced course involving intensive study of selected topics in special needs education. Course content will vary according to the topic and will be announced prior to registration.
2½-5 Lect Hrs, 3-6 Credits

SpEd 698A
Moderate Practicum
Ms Mitchell, Ms Norman
A supervised practicum and seminar for trainees working with children who have been placed in 502.2, 502.3, or 502.4 program prototypes. Preregistration required one semester prior to enrollment.
6 Credits

SpEd 698C
Generic Practicum
Ms Mitchell, Ms Norman
A supervised practicum and seminar for trainees working with children who have been placed in 502.1, 502.2, or 502.3 prototypes. Preregistration required one semester prior to enrollment.
6 Credits

Directions to Campuses
Harbor Campus Area



The Harbor Campus

The College of Arts and Sciences, the College of Management, the College of Nursing, the Physical Education Program, and certain College of Education programs are located at the Harbor Campus, which is only three miles from downtown Boston and is easily accessible by public or private transportation.

By car from the north or west: Take the Southeast Expressway to exit 15 (JFK Library/South Boston/ Dorchester) and follow the University of Massachusetts signs along Columbia Road and Morrissey Boulevard to the campus. By car from the south: Take the Southeast Expressway to exit 14 (JFK Library/Morrissey Boulevard) and follow Morrissey Boulevard northward to the campus.

On the MBTA: Take the Red Line Ashmont train to JFK/UMass (formerly Columbia) station. A free shuttlebus will carry you from the "T" parking lot to the campus. MBTA buses following Route 16B also stop at the campus.

Campus parking facilities: Indoor space is available for 1,575 cars.

The Downtown Center

The University's Downtown Center, home of the College of Public and Community Service and certain College of Education programs, is at the corner of Stuart and Arlington Streets in Park Square, one block from the MBTA Green Line Arlington station. A free shuttlebus service connects the Harbor and the Downtown campuses.

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Office of New Student Services
University of Massachusetts at Boston
Harbor Campus
Boston, MA 02125-3393

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02109